

JULY 1961 • 40 CENTS

Consumer BULLETIN

The original consumer testing magazine

FLOOR POLISHING MACHINES



STATION WAGONS

TENNIS BALLS

DEHUMIDIFIERS—

for removing excess moisture
from the air of a room

FRYING PANS, new kind,
with non-stick coating

1961 AUTOMOBILES

**Chrysler Newport and
Mercury Meteor 800 V-8**



PUBLISHED SINCE 1928

BY CONSUMERS' RESEARCH, INC., WASHINGTON, NEW JERSEY

COMPLETE CONTENTS ON PAGE 5

The new Norelco 'floating-head' Speedshaver

New design, no improvement

THROUGH the medium of big-scale TV, newspaper, and magazine advertising, North American Philips Co., Inc., claims "another great advance in shaving comfort—'floating-heads'" for their new men's *Norelco Speedshaver* electric shaver. The basis for this claim is that the *Norelco* shaver has been improved, and now has heads that have freedom of motion and swivel or "float" instead of being rigidly secured. For this difference, consumers are asked to pay an extra \$5.

In theory, the "floating-head" design sounds good if, indeed, as the manufacturer claims, the heads "adjust automatically to every contour of the face." However, in actual use, the new shaver shaves no better or faster, and in one important respect it is not as good as the model with rigid heads.

With either model *Norelco Speedshaver*, one can get a good shave in due time (although not as close or as fast as with some other makes of electric shavers). One of the outstanding qualities of the *Norelco* shaver with rigid heads was its absence of skin irritation. The *Norelco* with floating heads, however, left the skin of some men who used it smarting and burning, particularly on the neck. Thus, in so far as performance is concerned, the floating heads appear to be less satisfactory than the earlier design.

Most men prefer to use electric shavers rather than safety razors because of the time saved, even though they are aware that electric shavers do not shave as closely—regardless of what certain commercials would have you believe. For most men the time required to clean the shaver is considered part of shaving time. In this respect, the *Norelco* with floating heads has lost a good deal of ground because of the extra time required to remove the clipped hairs from the hair pocket, cutters, and combs. This operation involves removing, replacing, and handling no less than six pieces besides the shaver body and the cleaning brush (see photo).

Shaving times vary with different men, but most of those who shaved with the *Norelco* "floating-head" *Speedshaver* reported it was slow, requiring about 9 minutes to get a passable shave and to clean the heads, cutters, and hair pocket. Users

of most other electric shavers can shave and clean the shaver in about half that time.

B. Intermediate

Norelco "floating-head" Speedshaver (North American Philips Co., Inc., 100 E. 42 St., New York 17) \$30 (about \$20 at discount). Weight, 10½ oz. Operates on a.c. or d.c. Did not interfere with radio or television. Slow action. Capable of giving a good shave if given sufficient time, but was not a good shaver for trimming sideburns. The new *Speedshaver* was found by some men to cause skin irritation. Lacked trimmer, and on-off switch. Shaver is troublesome and time-consuming to clean. Cord length, 72 in.



Cleaning an electric shaver with as many separate pieces as are shown above is time-consuming and a bother. There is also greater risk of losing such small parts as the cutters on the floor or down the drain.

The Consumers' Observation Post

SPIKE HEELS ON WOMEN'S SHOES are destroying the American home. That was the comment of a city building inspector in a Midwest city. The stiletto heels, particularly when they are steel tipped, are digging into vinyl, rubber, and asphalt tile, and hardwood floors as well. He estimated that greater damage was caused floors by spike heels than by ants, termites, and dry rot. One suggested solution is to introduce the Japanese custom of removing the shoes at the front door before entering the house.

* * *

DATED APPLIANCES may be found on the market in New York State if Assemblyman Francis P. McCloskey of Nassau County, New York, has his way. He introduced a bill in the last New York State Legislature to require the disclosure of the model year of manufacture for television and radio sets, phonographs, major household appliances such as automatic dryers, refrigerators, and freezers. All advertisements, announcements, tags, and labels offering such merchandise for sale would be required to carry the "model year." Mr. McCloskey's aim is to protect consumers from unscrupulous dealers who pass off an older model as the latest thing by listing meaningless figures as the model number. There may, of course, be nothing wrong with an out-dated appliance and it would often be a good buy at a suitably reduced price.

* * *

ADVERTISING OF THOSE 900 CALORIE WEIGHT REDUCERS is coming under severe scrutiny by the Baltimore City Health Department. Commenting on the proposed labeling that a carton of the skim milk product containing special ingredients constituted "a full day's nutrition," the Commissioner of Health indicated that it should also include a conspicuous warning that the product was not safe for a complete diet because it was such a severe reducing program. It was also the City Health Department's view that many other 900 calorie diets on the market were not safe for use as a complete diet substitute and should be taken only under a physician's direction.

* * *

HOUSEHOLD DETERGENTS should not be used for shampooing the hair. The heavy-duty synthetic detergents may contain ingredients that are irritating to the more sensitive areas of the skin, according to Joseph B. Jerome, Ph.D., answering a query in the Journal of the American Medical Association. He points out also that such detergents may also cause serious trouble if they inadvertently get into the eyes during the shampooing process.

* * *

IF YOU RECEIVE POOR SERVICE IN A RESTAURANT OR STORE, do you accept it as inevitable or do you complain about it? You should take the trouble to voice your displeasure, preferably by letter or postcard, and perhaps the objectionable practices will be corrected. That is the advice of William Feather who suggests that we, the public, are much too apathetic about such matters. Not only should we speak up when we are displeased, but we should also write a letter of commendation when we see something that we like, a television show, a play, an article in a newspaper or magazine. Don't just mutter to yourself, make your views known in the proper places.

* * *

SOME WORK CLOTHES have built-in accident hazards. The Institute of Industrial Launderers points out that clean well-designed, well-fitting work garments prevent accidents, burns, and skin infections. Dirty or oil-soaked work garments may cause skin rashes, irritation, and other forms of dermatitis. Missing buttons, rips and tears, and cuffs on trousers are dangerous because they make it easier for clothing to get caught in moving machinery or on projections, causing falls or other injury. Floppy pockets, dangling ties, and loose apron strings are also conducive to accidents.

LEMON JUICE has not only been used as a beverage or flavoring material. Sometimes it is considered a health remedy for the treatment of colds, constipation, and as part of the reducing diet, according to Oral Hygiene. The magazine reports that investigators have discovered that lemon juice has a decalcifying and damaging effect on the teeth, as we warned our readers more than 20 years ago, which varies according to the amount and buffer capacity of the saliva. The harm lemon juice does seems greater when it is taken without food.

* * *

THE CURRENT CROP OF MOTION PICTURES with their emphasis on violence, sex, sin, and general lack of morality, in color, on wide screen projection, has so irritated parents that there is a rising demand for censorship in various sections of the country. As a substitute for censorship, some have proposed classification of films, designating certain pictures as suitable only for adults, for example. It is interesting to note that other countries of the world are also concerned with the problem. The new French law that went into effect January 20, 1961, requires that all motion pictures be classified in six categories: approved; forbidden to those under 13; forbidden to those under 18; forbidden to all; forbidden for export; forbidden unless modified or cut. Quite naturally the motion picture industry hopes that the example of the French censors will not be followed in other parts of the world.

* * *

PIANO FELTS need protection against moths in warm weather. The simplest method, recommended by the Connecticut Agricultural Experiment Station, is to place four ounces of paradichlorobenzene in a muslin bag and put it inside the piano case. Then close all the openings. The case should be kept closed as much as possible. Insecticide sprays are to be avoided because they may cause injury to the piano parts.

* * *

ABOUT ONE FOURTH OF AMERICA'S YOUNG PEOPLE don't eat breakfast. That was the conclusion reached by Eugene Gilbert, president of the Gilbert Youth Research Co., after making a survey of 973 teenagers in 14 cities across the United States. Lack of time seems to be an important factor, for 67 percent of those queried reported that they had a bigger breakfast at week ends and on holidays when they didn't have school to worry about. Snacks were eaten between meals by 72 percent. Only 25 percent of the boys and 15 percent of the girls reported that they did not eat between meals.

* * *

HARD-TO-OPEN CAPS ON MEDICINE BOTTLES are recommended to prevent children from dipping into drugs in the family medicine cabinet. In one year alone, over 400 children died because they accidentally swallowed pills, such as aspirin, in large quantities. A new safety cap for use with liquid as well as tablet prescription containers is now being made expressly to prevent such tragedies. Manufactured by the Brockway Glass Co., Brockway, Pa., the safety cap is made with an inner and outer shell from plastic products developed by the Union Carbide Plastics Co. The combination looks like the conventional plastic cap, but it cannot be removed in the usual manner. When you try to unscrew it, it revolves endlessly unless you apply pressure of the finger to the top of the cap while unscrewing it. The child who plays with the family supply of aspirin so capped will turn and turn the cap, but nothing will happen. It has been found that, as a rule, a child under six will rarely coordinate his motions to press down on an object while turning it at the same time. Parents should be careful not to let young children see just how they open the bottle.

(The continuation of this section is on page 37)

Consumer Bulletin

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Listings usually are arranged in alphabetical order by brand name (not in order of merit) under each quality or performance rating. A numeral 1, 2, or 3 at the end of a listing indicates relative price, 1 being low, 3 high. Where the 1, 2, 3 price ratings are given, brands in the 1, or least expensive group, are listed alphabetically, followed by brands in price group 2, also in alphabetical order, etc. A quality judgment is wholly independent of price.

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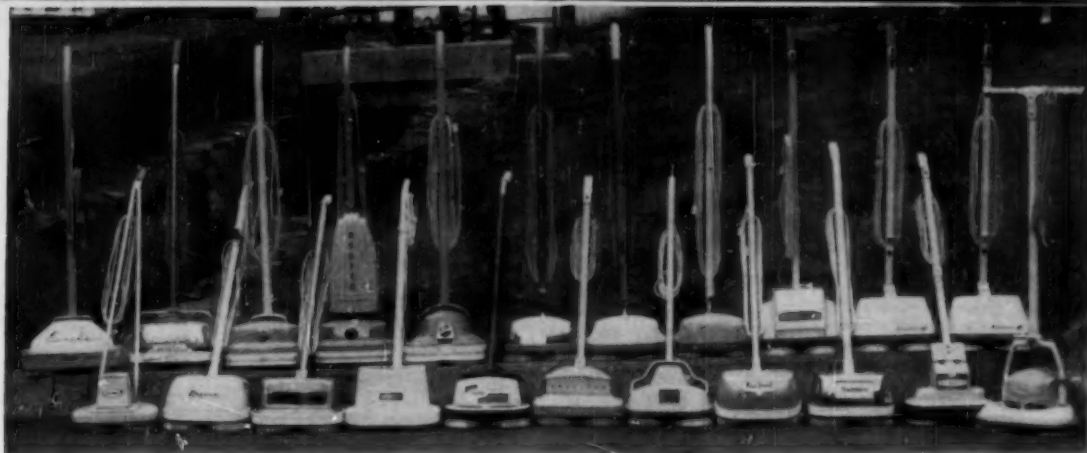
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Back row: Eureka 20; General T-12A; Hoover 5450, 5240, and 5130; General Electric P12FP5, P12FP4, and P12FP3; Kenmore 70, 40, and 50. Front row: Sunbeam 620; Regina 360, R2, R-1A; Sunbeam 610; Shetland T-42 and T-27; Red Devil FP-33 and FP-33SDC; Singer P-21; Electrolux B-7.

FLOOR POLISHING MACHINES

It was the accepted view for many years that if a durable high polish was desired, use of a heavy polishing machine of the kind used in commercial floor maintenance work was required. The work of waxing, polishing, and buffing a floor was not generally tackled by the housewife. Rather, the job was handled by a professional in the floor polishing business, and because of the high charges involved, floors in the home didn't get waxed and polished too often.

Nowadays the homemaker may have at her command, along with a myriad of other labor-saving devices, a relatively light polishing machine which has been designed so that she can herself do the job of waxing a floor. It is light in weight, not difficult to manipulate, and inexpensive to operate.

Many of the latest models of polishers are supplied with a multitude of attachments (paralleling the development of the vacuum cleaner) which enable the housewife to use the appliance for scrubbing floors and cleaning or shampooing rugs, as well. It is the judgment of Consumers' Research that the rug shampooing and floor scrubbing attachments will see little use after the initial glow of acquisition has worn off—a fate which befalls also the great majority of the attachments sold with many vacuum cleaners.

The floor machines can do a very good job of scrubbing, but do not provide a means for getting the loosened soil up from the floor. Moreover it was found to be very difficult in shampooing a rug to spread the suds evenly without wetting the rug backing excessively, and Consumers' Research cannot support the recommendation to vacuum clean the damp rug to remove the soil that has been loosened. Vacuum cleaners are not designed nor intended for such use, and there is a

possibility of a serious electrical shock hazard when interior parts of a vacuum cleaner are allowed to become wet.

In our judgment, the housewife would be well advised to concentrate her appraisal of the advantages and disadvantages of any polisher she is considering on those functions which are of primary concern, namely, those of waxing, polishing, and buffing a wood, linoleum, or other hard-surface floor.

Design considerations

All of the machines included in the present test used two or more revolving brushes, a significant fact, because it indicates that manufacturers have generally concluded that single-brush machines may be right for the professional floor man, but are too difficult for the average housewife to control. (Consumers' Research has not tested and must therefore reserve decision on the new *Westinghouse* machine which has one large brush that oscillates, rather than revolving continually in one direction.)

Several different arrangements are employed to hold the handles in their upright position for the purpose of storing the machines. On some, they are held in place by frictional force combined with a spring action. To use the machine, the operator simply pulls the handle toward her. On others, a spring-loaded positive latching device is employed. This is released when the operator presses with the toe of her shoe a small metal or plastic plate or lever at the rear of the machine housing and at the same time pulls on the handle. On a few, the handle hinge was so placed that the handle could be swung beyond its upright position (over-center) and just naturally stayed in place without need for a catch or locking device.

For reasons of the user's safety in changing brushes or attaching pads, Consumers' Research engineers prefer the type of handle control with the positive catch and toe release, when the release lever is one that is easy to reach and depress. A well-designed toe release, although somewhat less convenient in use than the more simple friction-held handle, does not permit the motor housing to flip accidentally, with possibility of injury, when one is changing brushes or fastening the buffing pads.

We prefer to see designs in which the on-off switch is mounted near the grip on the handle. Such an arrangement may add slightly to the cost of manufacture but is well worth the difference, from the standpoint of the user's safety.

Brushes

The number of brushes used, their size, and their construction affect not only the ease and convenience in use of a polisher but the time it takes to do a job.

Most of the polishers tested were designed to use two brushes about six inches in diameter. Principal exceptions were the *Electrolux*, which had three; the *Eureka*, which had four small 4-inch brushes; and the *Kenmore 50*, which had two 7-inch brushes. The *Electrolux* and *Kenmore 50* were noticeably faster to use, that is, they polished and buffed an area faster than the other machines tested. The action of the *Eureka* was judged to be a bit on the slow side.

The size of the brushes and the number used also has a bearing on the appearance of the floor when the polishing job is finished, because each revolving brush or buffing pad leaves a swirl mark. In this respect, one large brush is preferable but, of course, a machine with a single, large revolving brush is normally difficult to control. These markings, which mar the appearance of an otherwise smoothly polished floor, were left by *all* of the machines tested.

The swirl marks, which are noticeable when light from a lamp or window is reflected from the floor surface, are to be expected with the use of any floor polishing machine, because of the relative softness of the floor wax, whether liquid or paste, that must be used.

There are probably several causes for wobbling,

for many of the machines tested wobbled at one time or another during Consumers' Research's tests. It does seem that any purchaser would be well advised to check any machine before paying for it—at the dealer's if possible—and make sure the machine doesn't exhibit this fault when a smooth floor surface is being polished. If it does, and the dealer can't remedy the situation, it will be best not to accept delivery.

Applying the wax

Liquid- or paste-type floor waxes—but not waxes of the self-polishing type—should be used with a machine polisher. (Many self-polishing waxes, however, can be buffed to good effect with a machine.) The care one takes in applying the wax will, to a noticeable extent, determine the quality of the finish you can obtain.

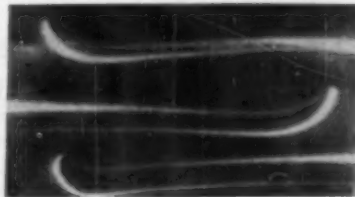
Several of the models tested were equipped with a plastic or metal dispenser tank which could be used for distributing liquid wax (or the solution for floor scrubbing or rug cleaning). A convenient control was located close to the handle grip as a means for dispensing the liquid in the small amounts required. In most instances, a small plastic tube was used to carry the solution from the tank to a point on the floor beneath the housing, where it was picked up by the revolving brushes and thus spread.

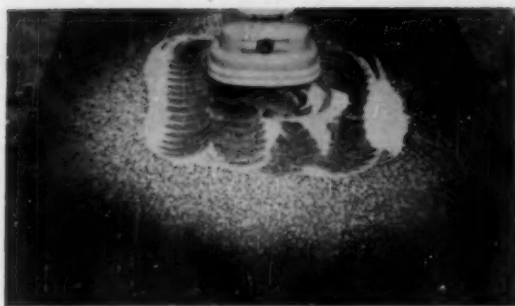
This arrangement, at first glance, appears to be ideal. You merely fill the dispensing tank, work the flow control while running the polisher over the floor area and, presto, the wax is evenly applied with no mess on the hands whatever. What the instruction books fail to tell you is that when using a liquid wax (or a detergent solution, when scrubbing) the liquid is distributed not only on the floor but also all over your shoes, stockings, trouser cuffs, drapes, and the baseboard or painted or papered walls near floor level.

One manufacturer, Singer, was obviously aware of the problems, for this company provided as an attachment to their machine a foamed-plastic spreader. This spreader functioned very satisfactorily and eliminated much of the tendency to "throw" the liquid wax inherent in the other machines with dispensers. Power-brush application of the wax is preferable to hand application, especially on wood floors where the action of the



Swirl marks were left by each machine tested after both the polishing and buffing operations. The markings on the left were made by the *Eureka 20* (4 small brushes); those on the right by a typical two-brush machine. (The effect is somewhat exaggerated in the photographs.)





Splattering can be expected from any machine tested if it is used to apply liquid wax or to scrub floors (shown).

brushes tends to fill the grain, provides more even application, and thus promotes a better appearing—and safer—final finish.

Consumers' Research engineers concluded, after several unsuccessful attempts to overcome the tendency on the part of the polishers to throw the liquid wax, that a housewife would be best advised to buy and use an inexpensive (about \$1) lamb's-wool applicator (with wood handle) and relieve herself of some of the extra labor imposed on her by the supposedly labor-saving wax-dispensing attachment.

Electrical safety

Each of the floor polishers listed passed successfully CR's tests for electrical safety and should be relatively safe electrically when used for waxing, polishing, and buffing.

When the machine is used for floor scrubbing or rug shampooing, conditions under which the operator will likely have moist or wet hands and stand on a wet floor, there is no way to make it completely safe from possible electrical shock hazard. On most of the test samples, that part of the housing between the brushes and the motor and internal wiring provided a satisfactory shield against the entrance of water. All the machines, however, had vent holes in the upper part of the housing to permit air circulation for cooling the motor. Water or detergent solution might accidentally be splashed through these holes and create an electrical hazard.

For reasons of safety, one should stop using immediately any polisher from which even a slight tingle is noticed, from contact of the hands with the housing or the handle. (A hand grip made of an insulating material fitting over the metal handle is much to be preferred to the plain, painted metal handle, for obvious reasons.)

The names of the machines listed are arranged alphabetically within the A, B, and B— groups.

A. Recommended

General, Model T-12A (General Floorcraft, Inc., Bronx 66, N. Y.) \$79.50 for *Model T-12A-KB* kit which includes the machine and 2 scrubbing brushes, 2 polishing brushes, 2 lamb's-wool buffing pads, liquid dispenser, and rug-cleaning attachment. The machine was easy to handle; seldom wobbled during the tests. Effectiveness in polishing, average; in buffing, above average.

Over-all evaluation: Performance was above average; average in certain design features.

General Electric, Cat. No. P12FP5 (General Electric Co., Vacuum Cleaner Dept., 1734 Ivanhoe Rd., Cleveland 10, Ohio) \$50. Includes 2 scrubbing brushes, 2 "all-purpose" brushes, 2 lamb's-wool buffing pads, 2 wax-removal pads, a dispenser, 2 plastic attachments for rug cleaning, 2 qt. liquid wax, and "hang-up storage caddy" for accessories. Motor and gear drive same as used in *GE Models FP3* and *FP4*. The machine was in general easy to handle and did not wobble. Polishing, above average; buffing, average.

Over-all evaluation: Somewhat above average in performance; design, average.

Kenmore 50 (Sears-Roebuck's Cat. No. 20—1050K) \$45, plus shipping. Includes 2 scrubbing brushes, 2 polishing brushes, 2 felt buffing pads, liquid dispenser, and rug-cleaning attachment. The larger-than-usual 7-in. brushes and pads give a noticeable advantage in speed of use. The machine was easy to handle and did not wobble during the tests. Polishing, above average; buffing, average. Motor and drive gearing similar to those used in *Kenmore 40* and *70* models.

Over-all evaluation: Performance was somewhat above average; design, average.

Red Devil, Model FP-33 (Red Devil Tools, Union, N. J.) \$30. Includes 2 polishing brushes only. The machine was easy to handle, and did not wobble during the tests. Brushes were somewhat difficult to attach and remove. Polishing, above average; buffing, average.

Over-all evaluation: Somewhat above average in performance; design, average.

Red Devil Houseboy, Model FP-33SDC (Red Devil Tools) \$50. Includes 2 scrubbing brushes, 2 polishing brushes, 2 felt buffing pads, rug-cleaning attachment, and dispenser. Same as *Red Devil Model FP-33* except for minor differences in the design and finish of the cover. The *FP-33SDC* is also noticeably quieter in use.

Over-all evaluation: Somewhat above average in performance; design, average.

Regina, Model 360 (The Regina Corp., Rahway, N. J.) \$50. Includes 2 scrubbing brushes, 2 polishing brushes, 2 felt buffing pads, one dispenser, and rug-cleaning attachment. The machine handled satisfactorily; there was some wobbling at times. Polishing, slightly above average; buffing, average.

Over-all evaluation: Somewhat above average in performance; design, average.

Shetland, Model T-27 (The Shetland Co., Inc., Salem, Mass.) \$30. Includes 2 combination scrubbing and polishing brushes, 2 felt buffing pads, a dispenser, and rug-cleaning attachment. Light, easy to handle, and

did not wobble. Polishing and buffing, somewhat better than average.

Over-all evaluation: Above average in performance; design was only fair, and machine was judged slightly underpowered.

Singer, Model P-21 (Singer Sewing Machine Co., New York 6) \$60. Includes 2 scrubbing brushes, 2 polishing brushes, 2 lamb's-wool buffing pads, 2 steel-wool pads, a dispenser, and rug-cleaning attachment. The machine was easy to handle and did not wobble. Polishing results, about average; buffing results, above average. Judged to be slightly underpowered.

Over-all evaluation: Performance, above average; design, average.

B. Intermediate

Electrolux, Model B-7 (Electrolux Corp., New York 36) \$119.75. Includes 3 combination scrubbing and polishing brushes, and 3 buffing pads of a rug-like material. Wax dispenser, steel-wool holder brushes, and bottom splash shield are available at extra cost. Brushes are belt-driven. "Lo-Hi" speed-selector switch on housing is conveniently placed. Handled easily—even though machine was heaviest tested—and did not wobble. Faster in polishing than any other machine tested. Polishing, above average; buffing, poorest of any machine tested (judged to be the result solely of the type of material used for buffing pads)—machine would otherwise be worthy of an *A-Recommended* rating.

Over-all evaluation: A well-designed machine with one serious weakness in performance—poor buffing action.

General Electric, Cat. No. P12FP3 (General Electric Co.) \$30. Includes 2 "all-purpose" brushes for polishing and scrubbing, 2 felt buffing pads, and 2 plastic attachments for brushes for rug cleaning. Motor and gear drive same as used in *GE Models FP4* and *FP5*, and test results were essentially similar.

Over-all evaluation: Somewhat above average in performance, but lacking in some features making for convenience in use.

General Electric, Cat. No. P12FP4 (General Electric Co.; Cleveland 10, Ohio) \$40. Includes 2 "all-purpose" brushes for scrubbing and polishing, 2 felt buffing pads, 2 wax-removal pads, 1 dispenser, 2 plastic attachments for brushes for rug cleaning, and 1 qt. liquid wax. Motor and gear drive same as used in *GE Models FP3* and *FP5*. The machine was generally easy to handle and did not wobble. Polishing and buffing, average.

Over-all evaluation: About average in performance and design.

Hoover, Model 5130 (The Hoover Co.) \$45. Includes 2 scrubbing brushes, 2 polishing brushes, 2 felt buffing pads, 2 cleaning-waxing pads. Handling, satisfactory; did not wobble. Polishing, below average; buffing, average.

Over-all evaluation: Performance, about average; design, above average.

Hoover, Model 5240 (The Hoover Co., North Canton, Ohio) \$65. Includes 2 combination scrubbing and polishing brushes, 2 specially designed brushes for rug shampooing, 2 felt buffing pads, and dispenser. The

machine was only fairly easy to handle and wobbled at times. Polishing and buffing, about average.

Over-all evaluation: Well designed, but only average in most performance tests.

Hoover, Model 5450 (The Hoover Co.) \$35. Includes 2 combination waxing, polishing, and scrubbing brushes, and 2 felt buffing pads. The machine handled satisfactorily, except in buffing; it wobbled at times. Polishing and buffing, average.

Over-all evaluation: Well designed, but only average in most performance tests.

Kenmore 40 (Sears-Roebuck's Cat. No. 20-1040K) \$35, plus shipping. Includes 2 scrubbing brushes, 2 polishing brushes, 2 felt buffing pads, a liquid dispenser, and rug-cleaning attachment. Handled satisfactorily, but slight wobble was in evidence during most of the tests. Polishing and buffing action, average. Motor and gear drive similar to those used in *Kenmore 50* and *70* models.

Over-all evaluation: Performance and design were about average.

Kenmore 70 (Sears-Roebuck's Cat. No. 20-1070K) \$55, plus shipping. Includes 2 scrubbing brushes, 2 polishing brushes, 2 felt buffing pads, a built-in liquid dispenser, and a rug-cleaning attachment. Two speeds provided: a slow speed for scrubbing, and a higher speed for the other functions. (The tendency for the scrubbing solution to splatter is lessened at the slow speed.) Handled satisfactorily and seldom wobbled. Polishing and buffing, about average.

Over-all evaluation: In performance and design, this machine was average in most respects.

Regina, Model R-1A (The Regina Corp.) \$30. Includes 2 combination scrubbing and polishing brushes, 2 felt buffing pads, a liquid dispenser, and rug-cleaning attachment. Handling was satisfactory, but wobbled at times. Polishing, below average; buffing, above average.

Over-all evaluation: About average in performance and



The housings on several of the polishers were designed so that the floor area covered by the "kick-space" in a kitchen or laundry could be polished. A polisher with relatively straight sides cannot reach this area.

design; machine was judged to be somewhat underpowered.

Regina, Model R-2 (The Regina Corp.) \$40. Includes 2 scrubbing brushes, 2 polishing brushes, 2 felt buffing pads, liquid dispenser, and rug-cleaning attachment. The machine was fairly easy to handle and seldom wobbled. Polishing and buffing results, about average. Over-all evaluation: About average in performance and design.

Sunbeam, Model 620 (Sunbeam Corp., Chicago 50) \$30. Includes 2 polishing-rug-cleaning brushes, 2 felt buffing pads, and 2 wax-removing and scrubbing pads. Machine handled satisfactorily, but wobbled at times. Polishing, below average; buffing, about average. Over-all evaluation: An average machine in most respects.

Sunbeam, Model 610 (Sunbeam Corp.) \$60. Includes 2 scrubbing brushes, 2 polishing brushes, and 2 felt buffing pads. Machine wobbled very slightly at times. Polishing and buffing, below average.

Over-all evaluation: Somewhat below average in performance; design, average.

B—

Eureka, Model 20 (Eureka Williams Co., Div. National Union Electric Corp., Bloomington, Ill.) \$40. Includes 4 scrubbing brushes, 4 polishing brushes, 4 felt buffing pads, liquid dispenser, and rug-cleaning attachment. Handling, fair to satisfactory. The machine was comparatively difficult to steer in the buffing operation. Polishing action, well below average, buffing, below average.

Over-all evaluation: Below average in performance and design.

Shetland, Model T-42 (The Shetland Co., Inc.) \$50. Includes 2 scrubbing brushes, 2 polishing brushes, 2 lamb's-wool buffing pads, 2 steel-wool pads, a wax dispenser, and rug-cleaning attachment. Handling was only fair; machine tested wobbled. Polishing, below average; buffing, average.

Over-all evaluation: Performance was only fair; design, average; machine was judged slightly underpowered.

Important physical characteristics of the polishers tested

Model	Housing			Cord length, ft.	Weight, lb.	Brush diameter, in.	Switch on handle?	Convenience of cord storage	Handle held upright by	Noise level when running	Insulated hand grip?
	Material	Width, in.	Height, in.								
Electrolux B-7	Metal	13.8	8.3	20.0	25.0	6	No**	Sat	PC	LA	Yes
Eureka 20	Metal	13.3	7.0	17.2	11.8	4	No**	Good	PC	LA	No
General T-12A	Metal	12.0	6.8	17.9	15.8	6	Yes	Sat	SP	LA	Yes
GE P12FP3	Metal	11.8	5.8	18.3	11.2	6	No*	Good	BOC	Avg	No
GE P12FP4	Metal	11.8	5.8	17.9	11.4	6	Yes	Sat	PC	Avg	Yes
GE P12FP5	Metal	11.8	5.8	22.0	11.3	6	Yes	Sat	PC	Avg	Yes
Hoover 5130	Plastic	12.3	7.3	16.4	10.5	6	No**	Good	PC	HA	Yes
Hoover 5240	Plastic	12.3	6.3	16.4	14.0	6	No**	Good	PC	Avg	No
Hoover 5450	Plastic	12.0	6.3	16.4	11.8	6	No**	Good	PC	LA	No
Kenmore 40	Metal	12.3	7.3	22.0	15.3	6	Yes	Sat	SP	LA	Yes
Kenmore 50	Metal	13.8	7.3	21.9	17.0	7	Yes	Sat	SP	LA	Yes
Kenmore 70	Metal	12.3	9.0	21.9	16.5	6	Yes	Good	SP	LA	Yes
Red Devil FP-33	Metal	11.8	6.8	17.8	12.1	6	Yes	Sat	SP	HA	Yes
Red Devil FP-33SDC	Metal	11.8	7.0	17.8	14.0	6	Yes	Sat	SP	HA	Yes
Regina R-1A	Plastic	12.8	8.0	17.7	11.2	6	No*	Good	PC	Avg	No
Regina R-2	Metal	12.5	7.0	17.9	14.0	6	Yes	Sat	SP	LA	Yes
Regina 360	Metal	11.8	6.8	17.9	16.3	6	Yes	Sat	SP	LA	Yes
Shetland T-27	Plastic	12.0	8.0	14.3	8.7	6	Yes	Sat	SP	Avg	No
Shetland T-42	Plastic	12.2	7.8	17.5	10.0	6	Yes	Sat	SP	HA	Yes
Singer P-21	Plastic	12.0	8.0	17.4	13.5	6	Yes	Sat	SP	HA	Yes
Sunbeam 610	Metal	11.8	6.5	20.2	11.6	6	Yes	Sat	BOC	Avg	Yes
Sunbeam 620	Plastic	11.4	7.5	18.1	8.8	5	Yes	Sat	BOC	HA	Yes

* Switch on housing

** Switch in housing, handle actuated

SP—spring pressure

PC—positive catch, toe release

BOC—balances over-center

LA—lower than average

Avg—average

HA—higher than average

TWO 1961 AUTOMOBILES

Chrysler Newport

A well-designed full-size car with unit body construction. Some might object to the rather large tail fins, a design fad which fortunately seems to be on its way out. Very high acceleration.



Newport is the name of a new series of full-size Chrysler cars intended to compete with cars in a lower-price bracket than the *Chrysler Windsor*. Priced at about \$250 less than the *Windsor*, the *Newport* will be in competition with such cars as the *Mercury Monterey*, *Oldsmobile 88*, and *Pontiac Star Chief*. Powered by a new 265-horsepower V-8 engine, the *Newport* has manual transmission as standard equipment, with the shift lever rising from the floor. Credit is due Chrysler for using gauges instead of the so-called "idiot lights" for temperature, oil pressure, and alternator action.

The car was easy to enter and leave, and headroom and leg room were adequate. Seats were comfortable. Trunk sill was relatively high, making loading and unloading somewhat difficult. Instruments were plainly marked, and well illuminated at night. Heater and defroster were very satisfactory in operation. Had so-called safety-cushion dash as standard equipment. The *Auto-Pilot*, a speed regulator and "speed reminder" (available as an extra), with which this car was equipped, was, so far as can be judged at this time, a desirable accessory for persons who must drive a great deal over long distances. Its dial, numbered from 3 to 9, corresponds roughly to speeds of 30 to 90 miles per hour. The device is set to the desired speed, and the switch pulled out. When the car reaches the desired speed, the accelerator pushes back on the driver's foot, indicating that the *Auto-Pilot* has taken over and will maintain (within $\pm 1\frac{1}{2}$ miles per hour) the speed for which it is set. If the driver needs additional speed for passing, his pressing down on the accelerator overrides the *Auto-Pilot* action; the regulated car speed is resumed when the foot no

longer presses on the accelerator. The device can be turned off instantly, either by pushing the control switch in, or by light pressure on the foot brake pedal.

Disadvantages

The parking brake acts on the transmission output shaft, an arrangement considered less desirable than regular parking brakes which act on rear wheels (see April 1956 CONSUMER BULLETIN). The large fins are a disadvantage and likely to be very expensive to repair if damaged.

Prices

The car tested by Consumers' Research was a 4-door sedan with *TorqueFlite* automatic transmission, power steering and brakes, and *Auto-Pilot*.

"Posted price," \$4026, itemized as follows: Manufacturer's suggested list price, \$2964; heater-defroster, \$101.90; radio, \$99.80; power antenna, \$25.90; *TorqueFlite* transmission (push-button controlled), \$226.90; power steering, \$107.60; power brakes, \$43.50; *Auto-Pilot*, \$86.10; electric clock, \$19.40; 8.00 x 14 white sidewall tires, \$42.30; closed crankcase vent, \$5.20; remote control mirror, \$18; tinted glass, \$43.10; carpets, \$12.50; wheel covers, \$18.75; washer and variable speed wipers, \$19.85; two-tone paint, \$19.75; undercoating and hood pad, \$17.85; front and rear foam cushions, \$24.10; interior light package, \$26.60; anti-freeze, \$5.90; freight, \$97.

Riding and handling qualities

This car gave a very good ride at speeds up to 65 miles per hour on roads in good condition, and behaved well on hilly, winding roads. It cornered

Chrysler Newport specifications

Taxable horsepower	54.3
Taxable weight, pounds	3710
Engine	
Type	V-8, overhead valves
Piston displacement, cubic inches	361
Rated maximum horsepower at stated rpm.	265 at 4400
Compression ratio	9.0 to 1
Cooling system capacity with heater, quarts	17
Chassis and body	
Type	Unit
Wheelbase, inches	122
Over-all length, inches	216
Width, inches	79.5
Height, inches	55
Tires	8.00 x 14
Rear axle ratio	3.23 to 1 (2.93 to 1, automatic)
Brake area, square inches	230
Turning diameter, feet	44
Minimum road clearance, inches	5.5
Trunk space, cubic feet	39
Other details	
Battery	12-volt 59-amp.-hr.
Gasoline tank capacity, gallons	23
Type of gasoline required	regular
Curb weight, pounds	Approximately 3870

well, but steering was somewhat fast, a characteristic of Chrysler power steering. Seats were comfortable.

Road tests of accelerating ability

Acceleration times were:

0 to 60 m.p.h.	11.5 sec.
20 to 50 m.p.h.	7.5 sec.
40 to 60 m.p.h.	6.5 sec.

These accelerations were exceptionally fast, and in the same class as *Buick LeSabre* and *Oldsmobile 88*. Considered too fast in acceleration to be driven safely under certain road conditions by the average driver.

Instrument errors

Speedometer was approximately 1 percent fast at 50 miles per hour. Odometer was approximately correct.

Gasoline mileage under test conditions

At a constant speed of 50 miles per hour, the *Newport* gave 16 miles per gallon. With *Auto-Pilot* set to maintain speed at 50 miles per hour, the car gave 16.5 miles per gallon on a test on a turnpike. These figures are about what are to be expected for a car of this size and weight.

Brakes

Service brakes were very good. Parking brake was of the step-on type with manual pull-out push-down release lever, and acted on the transmission output shaft; the brake setting and release devices were not considered to be of a type desirable for use as an emergency brake.

Mercury Meteor 800 V-8

A new car this year, and a satisfactory car, but except for improved riding quality on rough roads, it does not appear to offer enough extra value over the Ford V-8 to warrant its higher price (about \$220 more than Fairlane 500 V-8, about \$60 more than Ford Galaxie V-8).



SIMILAR to the *Ford* in many respects, the *Mercury Meteor 800* has a one inch longer wheelbase and it is five inches longer overall. The most important difference appears to be the cushion link suspension with which the *Meteor 800* (but not the 600) is

equipped; this feature appeared to afford improved riding quality. The car was easy to enter at the front (the floor is flat), and relatively easy to enter at the rear (step-down area). Headroom at front and rear was satisfactory, but more leg room in the rear would be desirable. Trunk was fairly easy to load, over a moderately high sill, but the spare tire was somewhat difficult to get at. Heater and defroster were very satisfactory.

The *Meteors*, like the *Fords*, claim that chassis lubrication is necessary only at 30,000-mile intervals. Consumers' Research recommends that owners have their cars placed on a lift for inspection of the mechanism underneath periodically (normally done at 1000-mile intervals when cars are greased), to check for any faults or impending defects or failures such as tire misalignment, leaky or loose parts in the exhaust system, loose bolts or hangers, transmission leaks, steering defects, and other troubles that might be serious if not cared for. The cost of relubricating the *Meteor* and *Fords* at the 30,000-mile point is estimated at about \$4. There are bull's-eye ornaments on the front fenders; these were judged not to be hazardous, and they would be helpful in night driving. Had aluminized muffler and tailpipe.

Disadvantages

Indicating lights instead of meters were used for generator and oil pressure.

Prices

The car tested by CR was a *Mercury Meteor 800 V-8* 4-door sedan with the optional *Marauder* 352-cubic-inch 220-horsepower engine, *Merc-O-Matic* transmission, power steering, and power brakes.

Mercury Meteor 800 V-8 specifications

Taxable horsepower	45
Taxable weight, pounds	3760
Engine	
Type	V-8, overhead valves
Piston displacement, cubic inches	292
Rated maximum horsepower at stated rpm.	175 at 4200*
Compression ratio	8.8 to 1
Cooling system capacity with heater, quarts	20
Chassis and body	
Type	side rails, 5 cross members
Wheelbase, inches	120
Over-all length, inches	215
Width, inches	80
Height, inches	55
Tires	7.50 x 14
Rear axle ratio	3.56 to 1 (3.00 to 1, automatic)
Brake area, square inches	180
Turning diameter, feet	41.5
Minimum road clearance, inches	5.4
Trunk space, cubic feet	32
Other details	
Battery	12-volt 55-amp.-hr.
Gasoline tank capacity, gallons	20
Type of gasoline recommended	Regular
Curb weight, pounds	3930

* Car tested had the optional 352-cubic-inch engine rated at 220 horsepower at 4400 rpm., 8.9 to 1 compression ratio.

"Posted price," \$3444.40, itemized as follows: Manufacturer's suggested selling price, \$2765; optional engine, \$34.80; *Merc-O-Matic* transmission, \$189.60; power brakes, \$43.20; power steering, \$81.70; heater-defroster, \$75.10; radio, \$65; electric wipers, \$11.60; windshield washer, \$13.70; padded instrument panel, \$21.30; wheel covers, \$19.20; courtesy light group, \$13.30; white sidewall tires, \$33.90; freight, \$77.

Road tests of accelerating ability

Acceleration times were:

0 to 60 m.p.h.	15.5 sec.
20 to 50 m.p.h.	8.5 sec.
40 to 60 m.p.h.	8.0 sec.

Slightly faster than the *Ford Fairlane 500 V-8* (see March 1961 CONSUMER BULLETIN) which had an engine rated at 175 horsepower. (The *Mercury Meteor* tested had a 220 horsepower engine.)

Riding and handling qualities

On highway and turnpike roads, at speeds up to 65 miles per hour, riding quality was very good; on bumpy and pothole roads, the ride was surprisingly good, a result attributed to the new type suspension which permits motion of the wheels toward the rear as well as upwards on impact with

bumps in the road. The *Meteor* cornered well. The power steering was fast and precise, and the car handled well in 4 to 5 inches of snow. The action of the transmission, which had a park position, was smooth. Seats were comfortable.

Instrument errors

Speedometer was about 6 percent fast at 50 miles per hour (an unduly large error). Odometer was about 4 percent fast.

Gasoline mileage under test conditions

At a constant speed of 50 miles per hour, the *Mercury Meteor 800 V-8* gave 17.5 miles per gallon (*Ford V-8* gave 19 miles per gallon). In average city driving, mileage ranged from 12 to 15 miles per gallon.

Brakes

The power brakes, self-adjusting, worked well and were fast acting; the car, however, was slightly nose heavy on emergency stops. Step-on type parking brake with pull-out release on dashboard, a form of brake release not judged to be satisfactory for use with an emergency brake.

Emendations to Consumer Bulletin

Sugar, enemy of good nutrition—I

Page 30, Mar. '61 Bulletin

The canned fruits which are packed in extra heavy syrup and the jelly and prunes shown in the illustration, it has been pointed out to us, were brands that are distributed by the Grand Union supermarket chain and several are their "private brands." On this account, some readers might have gotten the impression that criticism was intended to be directed at the retail chain. It was not, of course, CR's intention to imply that products sold by this group of stores are peculiar in respect to high sugar content, for the marketing of fruits in heavy syrup is not a characteristic of particular brands or outlets. High-sugar-content ("heavy syrup") canned foods are found among many brands, in all marketing outlets.

Built-in electric cooking appliances

Pages 22 and 23, Apr. '61 Bulletin

The comment in the table (page 22) and in the listing (page 23) of the *Frigidaire Model RBB-100CH* counter-top cooking unit to the effect that the elements were not level should be deleted. The installation instructions supplied with the appliance tested did not include mention of the fact that means were provided for adjusting the elements so that they were correctly leveled. *Frigidaire* has now supplied Consumers' Research with

a revised copy of the instruction sheets, dated April 1961. By following these instructions the serviceman installing the stove can adjust the surface units individually so that they are reasonably near level.

Zigzag sewing machines

Page 14, Apr. '61 Bulletin

The motor control of the *Kenmore 90 Deluxe* automatic zigzag sewing machine is a smooth (not stepped) control, and should be characterized as good, in the table on page 14.

The lamp socket of this machine is hinged to facilitate replacement of the lamp, a fact which the instruction book failed to note. When the lamp socket is pulled down on its hinge, ease of replacing the lamp is good rather than fair.

Bargains from abroad

Pages 18-20, July '60 Bulletin

Most of our readers who have commented—and there were many who did—have spoken favorably of their experiences in buying abroad from the sources mentioned in the BULLETIN article. One reader, who had some difficulty with a mail-order purchase from Hong Kong, found that an adjustment was quickly arrived at after he sent a complaint by letter to the Commerce and Industry Department, Fire Brigade Building, Hong Kong.

STATION WAGONS OF 1961



Most station wagons, except for their bodies, are essentially the same as their counterparts in passenger cars. Thus the judgment of Consumers' Research on corresponding passenger cars as given in the May and June 1961 issues, in conjunction with the information on width, length, height, volume in cubic feet of cargo space, and other factors as given in the accompanying discussion and table, will, in most instances, serve as a useful guide in choosing a station wagon. (Vehicles in the station-wagon category not yet covered are the Chevrolet Greenbrier Sports Wagon, Ford Econoline Station Bus, and Volkswagen station wagon, to be discussed in a future Bulletin.)

STATION WAGONS continue to increase in popularity, and this year prospective buyers have 38 models of compact station wagons to choose from, in addition to the many full-size wagons. Cargo-carrying capacities of the compacts range from 57.5 cubic feet (*Rambler American*) to 80 cubic feet (*Comet* and *Falcon*); the range in the full-size wagons is 74 cubic feet (*Rambler Ambassador*) to 100 cubic feet (*Ford* and *Mercury*).

A compact station wagon will sell at a price \$175 to \$1100 less than a full-size wagon. It is wise before buying a compact station wagon to take a demonstration ride; in general the compacts are not as comfortable as the full-size models. In some, such as the *Corvair*, the ride in the rear seat is relatively bouncy. If you plan to use a station wagon with fairly full loads most of the time, in city traffic, the compacts with the lower horsepower engines and standard rear axle ratios will not be best, for they will require considerable driving in second gear. In such cars a higher numerical rear axle ratio, which will give

fewer miles per gallon but more "pep," at slow speeds and in accelerating, should be considered.

The lower-priced makes of the full-size wagons are usually available with 6-cylinder or V-8 engines. If the station wagon is to be used for transporting fairly heavy loads of goods or passengers, or is to be equipped with an automatic transmission, one of the more powerful V-8 engine is to be preferred.

Station wagons will give fewer miles per gallon than comparable passenger cars; the difference will depend, of course, upon the load carried. Choice of a wagon, however, is usually greatly influenced by the arrangement of the body and its cargo-carrying space dimensions, and personal preference must be the basis for decision between the makes in selecting one that seems best to suit the purchaser's and his family's requirements.

In the compact station wagons, the *Rambler American* and *Lark* have the conventional double tail gates, with upper and lower parts. *Comet*,

(Continued on page 16)

	Price range, \$	Wheelbase, in.	Over-all length, in.	Cargo space					Tail gate opening	
				Length†, in.	Width, in.		Height, in.	Approx. volume, cu. ft.	Height, in.	Width, in.
					maximum	minimum				
Compact station wagons										
Buick Special	2654 2790	112.0	188.5	75.0	56.5	44.0	31.0	74.0	29.5	49.5
Comet	2310* 2353*	109.5	192.0	74.5	57.5	42.0	33.0	80.0	27.0	44.5
Corvair	2266* 2330*	108.0	180.0	70.0	57.0	39.0	26.5	58.0**	25.5	46.5
Dodge Lancer	2358* 2449*	106.5	189.0	69.0	52.5	43.5	31.5	67.0	27.5	38.5
Falcon	2225* 2268*	109.5	189.0	74.5	57.5	42.0	33.0	80.0	27.0	44.5
Oldsmobile F-85	2762 2897	112.0	188.0	74.5	56.5	44.0	31.0	73.5	29.5	49.5
Rambler American	2080* 2344*	100.0	173.0	65.5	59.5	40.5	30.5	57.5	26.0	39.0
Rambler Classic	2437* 2541	108.0	190.0	75.5	59.5	44.5	29.5	74.0	24.5	48.0
Studebaker Lark	2290* 2505	113.0	185.0	72.0	58.0	42.0	33.5	75.0	29.0	40.0
Tempest	2438* 2654	112.0	189.5	75.0	56.5	44.0	31.0	73.0	29.5	49.5
Valiant	2327* 2424*	106.5	184.0	69.0	52.5	43.5	31.5	67.0	27.5	38.5
Regular size station wagons										
Buick LeSabre	3623 3730	123.0	213.0	83.0	62.0	48.0	31.0	87.0	30.0	54.0
Chevrolet	2653* 3099	119.0	209.5	82.5	62.0	46.0	31.5	87.0†	30.5	54.0
Chrysler Newport	3541 3622	122.0	216.0	84.0	62.0	46.0	32.0	91.5	27.5	48.0
New Yorker	4764 4872	126.0	220.0	84.0	62.0	46.0	32.0	91.5	27.5	48.0
Dodge Dart	2700* 3016	122.0	215.0	86.0	62.0	46.0	32.0	95.0	27.5	48.0
Dodge Polara	3294 3409	122.0	215.0	86.0	62.0	46.0	32.0	95.0	27.5	48.0
Ford	2586* 3127	119.0	210.0	85.5	63.0	45.0	33.0	100.0	26.5	48.0
Mercury	2806* 3117	120.0	214.5	85.5	63.0	45.0	33.0	100.0	26.5	48.0
Oldsmobile	3363 3773	123.0	212.0	83.0	62.0	47.0	31.0	85.5	30.5	49.0
Plymouth	2602* 3134	122.0	217.5	86.0	62.0	46.0	32.0	94.5	27.5	48.0
Pontiac Catalina	3099 3207	119.0	210.0	82.0	62.0	48.5	31.5	85.0	30.5	54.5
Pontiac Bonneville	3530	119.0	210.0	82.0	62.0	48.5	31.0	84.5	30.0	54.5
Rambler Ambassador	2841 3111	117.0	199.0	75.5	59.5	44.5	29.5	74.0	24.5	48.0
Heavy-duty station wagons, with truck-type chassis										
GMC Suburban V-8 Model 1001	2821*	115.0	201.0	96.0	68.0	50.0	45.0	175.0	44.0	60.0
International Harvester Travelall 6- and 8-cylinder	2666* 3814	119.0	201.5	98.0	59.5	49.5	45.0	124.0	35.5	43.5
Willys Jeep 4- and 6-cylinder	2095 3010	104.5	176.0	69.0	58.0	44.0	47.0	95.0	40.0	58.0

† From back of front seat to inside of closed tail gate.

* Figures marked with an asterisk (*) are for 6-cylinder models or 4-cylinder models (in the Tempest); other figures are factory suggested base prices for cars with V-8 engines. Prices shown do not include freight or accessories such as radios, heaters, or automatic transmissions, unless the latter are standard equipment, as they are in the case of Buick and Chrysler New Yorker.

** An additional 10 cubic feet of space are available in front compartment.

‡ Has additional 10.5 cubic feet (6-passenger model) and 5.7 cubic feet (9-passenger model) in compartment under rear floor.



Upper left: Door type offered on some Ramblers.

Bottom row: left—Upper and lower tail gates as used on Rambler American and Lark; center—one-piece tail gate as used on Falcon, Comet, Ford, Chevrolet, and others; right—one-piece lift-gate as used on Corvair, Buick Special, Oldsmobile F-85, and others.



Falcon, Lancer, and Valiant, and 2-seat models of the Rambler Classic have only the lower tail gate, with sliding glass to close the rear opening. Buick Special, Oldsmobile F-85, and Tempest have a one-piece lift-gate hinged at the top, with retractable glass window. Corvair has a similar type but because of the space taken up by the engine at the rear, there is insufficient room for the glass to slide down and it is fixed in position (a disadvantage). The 3-seat Rambler Classic has a rear door the full width of the wagon body, and hinged at the left side; this is also available as optional equipment on the 2-seat (6-passenger) models.

If many extra-long articles are to be carried, a wagon with a tail gate is to be preferred, as the tail gate, when lowered, provides extra support for the load. With a lift-gate hinged at the top, the cargo space is more accessible, but there is a possibility of bumping one's head. And with either the lift-gate or door at the rear, load-carrying capacity is reduced by a significant amount if one is unwilling to chance driving with the door or gate in its open or partly open position. Lack of a drop-down tail gate could be inconvenient in hauling longer articles, such as

ladders, than will fit inside the wagon body.

A third seat is available only for the Lancer, Valiant, Rambler Classic, and Lark. The third seat faces the rear in each of these four makes.

Some of the full-size station wagons have electrically operated rear windows; these are usually available as optional equipment. The windows are operated from a control on the dashboard and when the key is inserted into the lock and turned the window retracts before the tail gate can be lowered. CR is strongly opposed to electrically operated rear windows where there are children, for there has been at least one fatality involving electric window operators set into motion by a child. Another hazard is that in one wagon checked (a Ford) by CR the wiring to the motor which actuates the window was installed in such a manner that it was pinched between the tail gate and the wagon body; it might be expected that repeated squeezing of the wire would eventually result in a short circuit, with possible battery failure, and it might even create a possible fire hazard.

The table gives the essential dimensions of 11 compact, 13 regular, and 3 heavy-duty station wagons.

UPRIGHT FOOD FREEZERS

The purchaser of a freezer cannot judge its quality or performance by its price for a given number of cubic feet of storage capacity. Consumers' Research in its tests of freezers found a wide variation in price per cubic foot and in monthly cost of operation per cubic foot. Some makes showed undesirably large variations in temperature in different locations in the storage space.

UPRIGHT FREEZERS require less floor space and appear to be gradually taking the place of chest-type freezers. Upright freezers are also more convenient to use, and the better ones have a more even distribution of temperature in the storage space.

Before buying a freezer it is well to give rather careful consideration to costs and advantages and disadvantages, for in many, perhaps most homes a freezer would not be as desirable a purchase as a modern combination refrigerator-freezer. If your answer is yes to most of the following questions, a freezer may be a desirable purchase.

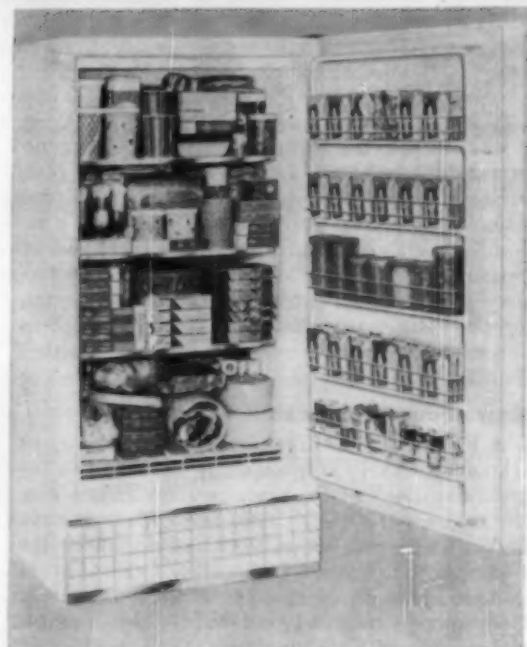
1. Will your family be content from now on to have a large portion of its meals consist of frozen rather than fresh foods?

2. Can you buy foods at wholesale prices or at prices sufficiently below retail to cover the total cost of freezing and storing, which will run from 10 to 30 cents per pound per year, plus cost of packaging?

3. Are you more or less permanently located? Moving a loaded freezer to a new home can be an expensive and difficult, and sometimes risky procedure.

4. Are your circumstances such that it is a major advantage to have a rather large supply of food on hand at all times for unexpected guests or other emergencies?

5. Fewer shopping trips for food are needed if you have a freezer, resulting in a saving of time and transportation costs. Are these considerations important to you, and are you near enough to the source of supply that you can get frozen food into your freezer soon after purchase?



6. Do you raise your own foods, fruits, vegetables, meat and poultry, or is there a hunter and fisherman in the family? If so, purchase of a freezer is often worth consideration.

If you are contemplating the purchase of a freezer principally to save money on your food, you are likely to be disappointed, for it is only those families that use a freezer for a major part of their food supply, with frequent turnover of food, which will benefit financially. For the *average* family, convenience is about the only major advantage in use of a freezer in the home.

Size to buy

Most people who buy a freezer tend to buy one that is too small for their requirements. One needs to take two considerations into account: that a freezer is a fairly long-term investment, and that one's family may increase in size. The proper freezer size will depend chiefly upon size of family and how much one uses the freezer. Three to four cubic feet of capacity per person, which is equivalent to 105 to 140 pounds of food, is about right for the average family.

Food-freezer plans

Selling of both frozen foods and a freezer in a combination deal, called a freezer plan, has been very common for several years. Unfortunately, most, indeed almost all of these plans are deceptive in some essential respect. Anyone considering a plan for installment purchase of freezer and food should by all means read first "Food-freezer plans" in CONSUMER BULLETIN, October 1960, and "Food freezer plans—good or bad?," CON-

SUMER BULLETIN, September 1959. Under no circumstances should one sign up for such a plan before carefully studying *all* the contract provisions. The cost can be great, and there's no "out" if you are dissatisfied with either food or freezer. It would pay any purchaser to consult a lawyer on contract provisions before signing up, for there are many variations of contract forms and trick provisions of some sort are usual, rather than the exception.

How accurate are rated volumes?

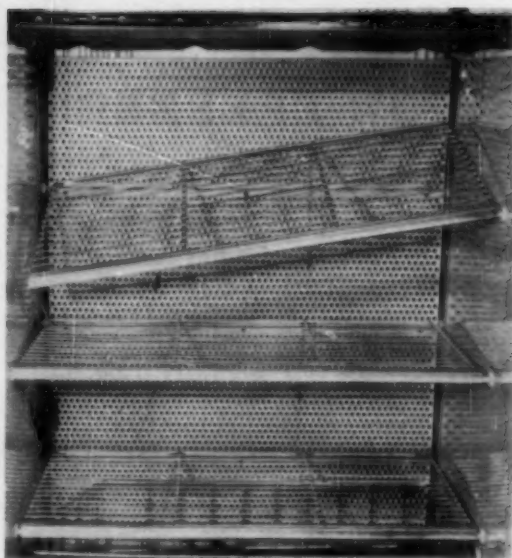
The Federal Trade Commission's efforts to force manufacturers to stop claiming false figures for gross capacities of their refrigerators and to give the usable net capacity does not appear to have had any effect on the exaggerated claims for the capacity of freezers. In nearly all cases, a net volume figure was named in the advertising; yet Consumers' Research found that the actual usable capacities were always less than the figure claimed. Actual values ranged from 4 to 21 percent below the asserted volume capacity. Worst in exaggeration of capacity were the General Electric Co. which advertised a 12.6-cubic-foot freezer that actually held only a little over 10 cubic feet, and Kelvinator's *Frost-Free* 14-cubic-foot freezer which had an actual usable capacity of 11 cubic feet. Those that came close to meeting their claimed capacities were *Coldspot*, *Frigidaire*, and *Amana*. These had only about $\frac{1}{2}$ cubic foot or 4 percent less capacity than claimed by the manufacturer.

Storage temperatures

A temperature of zero or very close to zero is desirable for the home freezing and storage of frozen foods. Different products deteriorate in quality at different rates under the same conditions, but one must store frozen foods at a temperature which is low enough to protect the most sensitive ones. In frozen peas, for example, rates of deterioration approximately doubled for each 5-degree increase in temperature between zero and 25 degrees, and the loss of ascorbic acid was even greater. Peaches will deteriorate as much in one week at 20 degrees or in two days at 25 degrees as they would in one year at zero. A good freezer should not have a temperature above 5 degrees in any part of the main storage section and in the door. In freezers in which the storage temperature at the door shelves or in any main storage compartment exceeds 5 degrees, the less cold sections should be reserved for products that will be stored only for a very short time, no more than a few days.

Quick freezing

The Department of Agriculture recommends limiting the load to be frozen at one time to one-



The shelf of this General Electric HA13TC doesn't fit. The failure to stay in place on its supports is caused by warping of the plastic interior liner, to which the shelf supports are attached.

fifteenth or, at most, one-tenth the total capacity of the freezer. This is equivalent to 2.3 to 3.5 pounds per cubic foot of capacity, or 28 to 40 pounds in a freezer with a capacity of 12 cubic feet. If one must freeze a large quantity of food at one time, the control should be set at the lowest (coldest) position for several hours before the food to be frozen is placed in the box.

In the manually-defrosted models, the food to be frozen should be placed in single layers in contact with the refrigerated shelves. In frost-free models, manufacturer's instructions should be followed.

In CR's tests, 20 pounds of frozen food were removed from each box and replaced with 20 pounds of food at room temperature. The time for the fresh food to drop from 60 degrees to 10 degrees depended on several factors. In the frost-free boxes, it did not make any difference whether the food to be frozen was in small flat packages or in one large package. On the other hand, in the regular freezers there was a marked difference in the *rate* of freezing, depending on whether the food was in small packages in contact with the freezing coil (shelf) or in one large package. The temperature of a large package fell 50 degrees more quickly in the frost-free freezers than in the "regular" type; however, small packages in contact with the freezing coil or plate froze more rapidly in regular freezers than in the frostless boxes. Thus, to take advantage of the rapid

freezing rate available in the regular boxes, the food should be in small packages in contact with one of the freezing surfaces, and the most perishable or critical type of food, e.g., chicken livers, giblets, etc., should be placed at those points that provide quickest freezing.

For most users, the speed of freezing is not of great importance; the exception would be in a home where a large amount of food would, on occasion, need to be frozen at one time.

Convenience in use

While freezers are not opened for storage and removal of food as frequently as refrigerators, it is desirable to have as much of their contents as readily accessible as possible, without having to stoop or go down on one's knees. There was little to choose between the brands tested in respect to accessibility of the frozen food, for in all of them about 25 percent of the contents were not easily reached. *Westinghouse* had the most accessible door storage space, all of which was within easy reach of the user. As for the other makes, one-fifth to one-third of the door space was not readily accessible. Only four of the freezers had interior lights. These were: *General Electric*, *Hotpoint*, *Kelvinator Frost-Free*, and *RCA Whirlpool*. All of the frost-free models and the regular model *Amana* with solid shelves were judged easy to clean. The fixed refrigerated shelves of *Coldspot*, *Gibson*, *Hotpoint*, *Kelvinator* (manual defrost), and *Westinghouse* would be very difficult to clean properly if food were spilled on them.

Several of the freezers tested required more than the maximum pull of 15 pounds to open the doors established for home refrigerators. These were: *Amana*, 18 pounds; *General Electric*, 16 pounds; *Kelvinator Frost-Free*, 23 pounds; *Westinghouse*, 18 pounds; and *RCA Whirlpool*, 19 pounds. If you buy a freezer with a lock, as you should if there are children in the home, be careful never under any circumstances to leave the key in the lock.

Warranties

All makes had the same warranty, 1 year for parts and labor, plus four additional years for refrigerating systems. All had a food spoilage warranty for either 3 or 5 years (for details, see listings).

Defrosting

In the frost-free types the moisture is removed from the air and is collected in the form of frost on coils located outside of the food compartment; from these coils it is removed automatically once every 24 hours and thereafter evaporated. In the regular manual-defrost type, defrosting is necessary, perhaps 2 or 3 times a year in average use

Frost-free freezers in general give more even distribution of temperature than regular freezers, but the average cost of operation was found to be almost twice as high. The frost-free freezers were more effective in quick freezing of fairly large amounts of foods than the regular manual-defrost freezers. The door shelves of regular freezers should be used only for short-time storage of foods.

of a freezer. During the defrosting operation, the food must be removed and the frost either scraped off or melted by exposure to room temperature or by introducing pans of hot water. A drain was provided in the *Kelvinator* and *Gibson* to carry away the defrost water; a drain outlet is a decided advantage. In all the other regular freezers it was necessary to mop up the water with sponges or towels.

Frost-free

A. Recommended

Kelvinator, Model KV-14MNF (Kelvinator Div., American Motors Corp., N.Y.C.) \$570 (\$51.75 per cu. ft.).

Dimensions: Height, 63 in.; width, 31 in.; depth, 29½ in. Total rated capacity, 14 cu. ft. (490 lb.). Usable capacity, 11 cu. ft. (385 lb.).

Description: Had 5 compartments with 3 fixed-position open-wire shelves. One of the open wire shelves was adjustable to 2 positions. One fixed-position solid shelf, and a sliding wire basket in bottom compartment. Door had 5 removable fixed-position shelves and a "dispenser" for cans of frozen juice. Flush hinges permitted freezer to be installed close to an adjacent wall or cabinets. Condenser coils located on the outside rear wall of cabinet. ¼-hp. compressor. Freezer equipped with lock, signal light, and interior light. Food-spoilage warranty, 5 yr., covering losses of \$5 to \$200.

Performance in test: In pull-down test, required 3.9 hr. to reach zero degrees (fastest action of all frost-free boxes tested). In storage-load test the temperature variation in box was small (desirable); temperatures ranged from -3° to +1°. Temperature at door shelves, 3° (good). Estimated cost of operation per month, \$2.80, or 25c per cu. ft. (lowest of the frost-free freezers tested).

B. Intermediate

Frigidaire DeLuxe, Models UFPD 12-60 (Frigidaire Div., General Motors Corp., Dayton 1, Ohio) \$380 (\$33.60 per cu. ft.).

Dimensions: Height, 64 in.; width, 32 in.; depth, 30¾ in. Total rated capacity, 11.79 cu. ft. (412 lb.). Actual usable capacity, 11.3 cu. ft. (395 lb.).

Description: Had 4 compartments with 3 fixed-position

removable open-wire shelves. Door had 5 fixed-position shelves. Condenser coils located on the outside rear wall of cabinet. 7/32-hp. compressor. Freezer not equipped with flush hinges, lock, interior light, or signal light. Food-spoilage warranty, 3 yr., covering losses of \$5 to \$300.

Performance in test: In pull-down test at 110° room temperature, this freezer required 5.3 hr. to reach 0° (slower than average for frost-free freezers). In storage-load test at 90° outside temperature, temperature variation in the box was small (desirable); temperatures ranged from 1 to 3°. Temperature at door shelves, 8° (somewhat high). Estimated cost of operation per month with electricity at 2c per kwhr., \$3.30, or 29c per cu. ft. ¶Model UFPD12-61 is essentially the same.

RCA Whirlpool, Model HM-12V (Whirlpool Corp., St. Joseph, Mich.) \$370 (\$37.50 per cu. ft.).

Dimensions: Height, 61¼ in.; width, 32 in.; depth, 26¾ in. Total rated capacity, 11.9 cu. ft. (417 lb.). Usable capacity, 9.9 cu. ft. (347 lb.).

Description: Had 4 compartments with 4 fixed-position slide-out wire shelves. Door had 2 regular fixed-position shelves, 2 special fixed-position shelves molded to fit cans of juice, and a packaged-food "dispenser." Flush hinges.

Condenser coils located in compressor compartment. Freezer had interior light and signal light, but no lock. ¼-hp. compressor. Food-spoilage warranty, 5 yr., covering losses of \$5 to \$200.

Performance in test: In pull-down test, required 4.2 hr. to reach 0° (satisfactory for a frost-free box). In storage-load test at 90°, temperature variation in box was small (desirable); temperatures ranged from -5° to 0°. Temperature at door shelves, +4° (satisfactory). Estimated cost of operation per month, \$4.20, or 42c per cu. ft. (somewhat high). This freezer was somewhat noisy in operation, and noise was very noticeable when door was open.

C. Not Recommended

General Electric, Model RA13TC (General Electric Co., Louisville 1, Ky.) \$450 (\$44.25 per cu. ft.).

Dimensions: Height, 64 in.; width, 30½ in.; depth, 26½ in. Total rated capacity, 12.6 cu. ft. (441 lb.). Usable capacity, 10.2 cu. ft. (357 lb.).

Description: Had 5 compartments with 3 fixed-position removable wire shelves and 1 solid fixed-position shelf. Swing-out wire basket at bottom. One of the wire shelves would not stay in position on its brackets because

PERFORMANCE OF UPRIGHT FREEZERS IN TEST

	List price, \$	Capacity, cu. ft.		*80% load test in room at 90°F									Rating
				Average** temperature inside freezer, degrees F	Maximum temperature in box (not door), and its location, degrees F	Temperature at center door shelf, degrees F	Running time, percent	Kwhr. per day	Kwhr. per month	Estimated operating cost per month at 2c per kwhr., \$	Estimated operating cost per month per cu. ft., cents		
		Rated	Usable										
Frostless													
<i>Frigidaire UFPD 12-61</i>	380	11.79	11.3	+2	+3	bottom shelf	+8	75	5.5	166	3.30	29	B
<i>General Electric HA13TC</i>	450	12.6	10.2	-1	+3	bottom shelf	0	100	7.6	228	4.55	45	C
<i>Kelvinator KV-14MNF</i>	570	14.0	11.0	-1	+1	bottom shelf	+3	65	4.7	141	2.80	25	A
<i>RCA Whirlpool HM-12V</i>	370	11.9	9.9	-2	+1	bottom shelf	+4	77	7.0	210	4.20	42	B
Regular													
<i>Amana D-13</i>	239	12.9	12.2	+2	+17	bottom shelf	+14	59	3.9	118	2.35	19	C
<i>Coldspot 106.6123120</i>	200	12.4	11.9	-3	+6	bottom shelf	+8	75	3.3	99	2.00	17	B
<i>Gibson V514R1</i>	300	13.64	12.1	0	+5	top of box	+9	51	3.4	101	2.00	17	B
<i>Hotpoint FM70B</i>	239	13.5	12.1	+1	+9	bottom shelf	+9	68	4.2	126	2.50	21	B
<i>Kelvinator KV14S</i>	420	14.0	11.9	+2	+19	bottom shelf	+10	59	3.7	110	2.20	19	C
<i>Westinghouse FBB-12</i>	240-270	11.5	10.2	+2	+16	bottom shelf	+14	56	2.8	83	1.65	16	C

Note: High food temperatures in bottom compartments of the Amana D-13, Kelvinator KV14S, and Westinghouse FBB-12 are due to lack of wire baskets needed to provide adequate air circulation. The circulation-aiding wire baskets are provided in higher-priced models in some cases.

* Test load was 80 percent of manufacturer's rated capacity. ** Controls set to give an average temperature as close to zero degrees as possible.

of dimensional inaccuracy of liner (liner was warped). Door had 6 fixed-position shelves and a "dispenser" for cans of frozen juice. Flush hinges and doorstop. Condenser coils located in compressor compartment. $\frac{1}{3}$ -hp. compressor. Freezer had lock, signal light, and interior light. Food-spoilage warranty, 3 yr., covering losses of \$5 to \$200. Control inconveniently located at the rear of the box, necessitating removal of food in order to adjust.

Performance in test: In pull-down test, required over 6 hr. to reach 0° (very slow). In storage-load test temperature variation in box, small (desirable); temperature ranged from -3° to +3°. Temperature at door shelves, 0° (very good), but box ran 100% of the time (undesirable). Estimated cost of operation per month, \$4.55, or 45¢ per cu. ft. (highest of all makes tested). ¶ *Model CA-373* is similar except that the storage basket slides out.

Regular (manual-defrost)

B. Intermediate

Coldspot, Model 106.6123120 (Sears-Roebuck's Cat. No. 47-12312) \$199.95, plus freight (\$16.80 per cu. ft.). **Dimensions:** Height, 59 in.; width, 32 in.; depth, 29 $\frac{3}{4}$ in. Total rated capacity, 12.4 cu. ft. (433 lb.). Actual usable capacity, 11.9 cu. ft. (417 lb.).

Description: Had 4 compartments with 3 fixed-position open wire refrigerated shelves. Removable L-shaped wire rack at bottom of box. The top surface of the upper compartment was also refrigerated. Door had 4 fixed-position shelves. Flush-type hinges permitted freezer to be installed close to adjacent wall or cabinets. Condenser coils located on rear of cabinet and in machine compartment. Compressor hp., not stated. Freezer equipped with lock but had no signal light or interior light. Food-spoilage warranty, 5 yr., covering losses of \$5 to \$200.

Performance in test: In pull-down test at 110° room temperature, required 4.3 hr. to reach 0° (slower than average for regular freezers). In storage-load test at 90°, temperature variation in box was satisfactory; temperature ranged from -7° to +6°. Temperature at door shelves, +8° (somewhat high). Estimated cost of operation per month with electricity at 2¢ per kwhr., \$2, or 17¢ per cu. ft. (low, desirable).

Gibson, Model V514R1 (Gibson Refrigerator Co., Division of Hupp Corp., Greenville, Mich.) \$300 (\$24.80 per cu. ft.).

Dimensions: Height, 63 in.; width, 29 $\frac{7}{8}$ in.; depth, 28 $\frac{3}{4}$ in. Total rated capacity, 13.64 cu. ft. (477 lb.). Usable capacity, 12.1 cu. ft. (423 lb.).

Description: Had 5 fixed-position solid shelves forming 4 compartments, each refrigerated on 3 sides, and 1 small compartment refrigerated on the bottom. Door has 4 fixed-position shelves and 3 horizontal racks for cans of fruit juice. Condenser coils located on the outside rear wall of cabinet and in compressor compartment. $\frac{1}{4}$ -hp. compressor. Flush hinges, but their purpose is defeated by projecting full-width handle. Freezer equipped with lock but had no signal light or interior light. Food-spoilage warranty, 3 yr., covering losses of \$10 to \$150.

Performance in test: In pull-down test, required 2.7 hr. to

reach 0° (average). In storage-load test temperature variation in box was satisfactory; temperature ranged from -3° to +5°. Temperature at door shelves, +9° (somewhat high). Estimated cost of operation per month, \$2, or 17¢ per cu. ft. (low, desirable).

Hotpoint, Model FM70B (Hotpoint Div. of General Electric Co., Chicago 44) \$239 (\$19.70 per cu. ft.).

Dimensions: Height, 63 in.; width, 32 in.; depth, 28 $\frac{3}{4}$ in. Total rated capacity, 13.5 cu. ft. (473 lb.). Usable capacity, 12.1 cu. ft. (423 lb.).

Description: Had 4 compartments with 3 fixed-position refrigerated open-wire shelves. The top surface of the upper compartment was also refrigerated. Sliding wire basket in bottom compartment. Door had 4 fixed-position shelves and a "dispenser" for cans of fruit juice. Flush hinges. Condenser coils located on the outside rear wall of cabinet. $\frac{1}{4}$ -hp. compressor. Freezer equipped with lock and interior light, but had no signal light. Food-spoilage warranty, 3 yr., covering losses of \$5 to \$200.

Performance in test: In pull-down test, required 4.3 hr. to reach 0° (slower than average). In storage-load test temperature variation in box was too large; temperature ranged from -6° to +9°. Temperature at door shelves, +9° (somewhat high). Estimated cost of operation per month, \$2.50, or 21¢ per cu. ft. (slightly higher than average).

C. Not Recommended

Amana Deluxe, Model D-13 (Amana Refrigeration Inc., Amana, Iowa) \$239 (\$19.60 per cu. ft.).

Dimensions: Height, 60 $\frac{1}{4}$ in.; width, 32 in.; depth, 26 in. Total rated capacity, 12.9 cu. ft. (452 lb.). Actual usable capacity, 12.2 cu. ft. (427 lb.).

Description: Had 4 compartments with 3 fixed-position solid aluminum refrigerated shelves. Small removable L-shaped wire rack at bottom of box. The top surface of the upper compartment was also refrigerated. Door had 4 fixed-position shelves. Flush hinges. No projecting parts on the back. Condenser coils are in walls of the box. $\frac{1}{4}$ -hp. compressor. Freezer did not have signal light, interior light, or lock. Food-spoilage warranty, 5 yr., covering losses of \$5 to \$150.

Performance in test: In pull-down test, required only 2 hr. to reach 0° (best in this respect of all boxes tested). In storage-load test temperature variation in box was too great (undesirable); temperature ranged from -7° to +17°. Temperature at door shelves, +14° (too high). Estimated cost of operation per month, \$2.35, or 19¢ per cu. ft. (about average).

Kelvinator, Model KV14S (American Motors Corp.) \$420 (\$35 per cu. ft.).

Dimensions: Height, 63 in.; width, 31 in.; depth, 29 $\frac{1}{2}$ in. Total rated capacity, 14 cu. ft. (490 lb.). Actual usable capacity, 11.9 cu. ft. (416 lb.).

Description: Had 5 compartments with 4 fixed-position open-wire refrigerated shelves. The top surface of the upper compartment was also refrigerated. Removable wire rack at bottom. Door had 3 fixed-position shelves and a "dispenser" for cans of frozen juice. Flush hinges. Condenser coils located on the outside rear wall of cabinet. Compressor hp., not stated. Freezer lock, but no

signal light or interior light. Food-spoilage warranty, 5 yr., covering losses of \$5 to \$200.

Performance in test: In pull-down test, required 3 hr. to pull down to 0° (about average). In storage-load test temperature variation in box was much too great; temperature ranged from -8° to +19°. Temperature at door shelves, +10° (also high). Estimated cost of operation per month, \$2.20, or 19¢ per cu. ft. (about average).

Westinghouse, Model FBB-12 (Westinghouse Electric Corp., Columbus, Ohio) \$240 to \$270 (\$24.50 to \$26.50 per cu. ft.).

Dimensions: Height, 60¼ in.; width, 30 in.; depth, 28¼ in. Total rated capacity, 11.5 cu. ft. (400 lb.). Actual usable capacity, 10.2 cu. ft. (357 lb.).

Description: Had 4 compartments with 3 fixed-position

open-wire refrigerated shelves. The top surface of upper compartment was also refrigerated. Bottom compartment had removable wire front. Door had 3 fixed-position tilt-down shelves, and 1 shelf adjustable to 3 positions. Flush hinges. Condenser coils located on the outside rear wall of cabinet. 1/5-hp. compressor. Freezer did not have signal indicating light, interior light, or lock. Food-spoilage warranty, 3 yr., covering losses of \$5 to \$200.

Performance in test: In pull-down test, required 2.9 hr. to reach 0° (about average). In storage-load test temperature variation in box was too great; temperature ranged from -6° to +16°. Temperature at door shelves, +14° (also much too high). Estimated cost of operation per month, \$1.65, or 16¢ per cu. ft. (low).

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NOTE: Back issues of CONSUMER BULLETIN (1960-1961) are available at 40 cents each; 1959 and earlier issues, 50 cents each. Thirty popular reprints are listed on page 24 of the June 1961 issue.



TENNIS BALLS

Consumers' Research found that price and maker's reputation do not assure one's getting first-rate tennis balls, and two brands of English balls tested turned out to be inferior, by USLTA standards

As any tennis player will confirm, the cost of replacing worn and lost tennis balls can be a substantial drain on the pocketbook. Serious players will discard a ball as soon as the cover is worn a little smooth. A worn cover on the ball can markedly affect the action of the ball in contact with the racket and the surface of the court. Many courts in use today are surfaced with a special macadam-like material; balls will wear more rapidly on these courts than on grass or clay courts.

Since one's game can be affected by such factors as weight of the ball, its size, and rebound characteristics, the International Lawn Tennis Federation, of which the United States Lawn Tennis Association is a member, has promulgated specifications for balls used in tournament playing. The USLTA publishes those rules in its Official Yearbook and Guide, and manufacturers of most balls in countries where tennis is played aim to meet the requirements. Most of the balls made in the U.S.A. are marked as meeting these rules.

Approval by Lawn Tennis Associations

The rules state that the balls shall be of a standard size (between $2\frac{1}{2}$ and $2\frac{3}{4}$ inches in diameter) and weigh more than 2 ounces and less than $2\frac{1}{16}$ ounces. The ball must rebound more than 53 inches and less than 58 inches when dropped from a height of 100 inches onto a concrete surface.

Rebound of the ball is governed largely by the characteristics, including freshness, of the rubber of which the ball is made. Most tennis balls are packed in sealed pressurized cans to slow down the rate of deterioration.

To shorten the period required for aging, Consumers' Research removed several samples of each brand from their cans and placed them in an oven for seven days at 158°F (a standard temperature used for accelerated aging of vulcanized rubber). The rebound properties of the balls were then tested and compared to results of the same test made before the balls were placed in the oven. Balls of every brand lost enough rebound quality as a result of the aging that they failed to meet the requirements for bounce. However, the *Pennsylvania X-76* balls missed the lower limit of 53 inches by only a slight amount; this brand had the highest rebound when fresh, though still remaining within the upper limit set by the specifications. For best results, tennis balls should not be removed from the sealed can until they are to be used. Once removed from the can, the balls will lose their initial desirable properties at a fairly rapid rate.

Results of tests

In the complete series of tests, all the *J. C. Higgins* and *Hawthorne* samples met the requirements; these were the only brands which did so well. However, failure of a single ball out of six weighed to lie within the specified limits of weight

was the only deviation from the requirements found for *MacGregor*, "*Pancho*" *Gonzales*, and *Pennsylvania X-76* balls.

Wear resistance of the covers of the balls was determined by tumbling the balls in a large drum rotated at about 24 revolutions per minute for six hours. Coarse abrasive paper was attached to about two fifths of the interior surface of the drum to accelerate the wearing effect. The heights of rebound and weights of the balls were determined before and after tumbling. There was an increase of rebound in every case except the "*Pancho*" *Gonzales* and *Pennsylvania X-76*, which remained substantially the same. The increase was slight in most brands. The greatest increases noted were for the *Slazenger* (about 2 inches) and *Wilson* and *MacGregor* (about 1¼ inches each). A change in rebound as the cover wears would, of course, affect the game of a serious tennis player. It was found that the highest percentage of weight loss due to wear was on the *Wilson* and *Slazenger* balls and the lowest wear on the "*Pancho*" *Gonzales* and *Dunlop* balls.

Importance of sealed cans

In order to check manufacturers' claims that all balls purchased in sealed pressurized cans will give the same good performance regardless of how long the dealer has had them in stock, several unopened cans of balls were saved from the previous test of tennis balls by Consumers' Research reported in 1957. Those cans had been kept in a warm room the year round, to simulate warehouse storage. The balls used in this test were the same brands as the new balls checked in the current test. All of the balls were found to have lost some of their rebound as compared to samples of the same brands in the 1957 tests, but two of the five brands checked still had sufficient rebound to meet the requirements. The other three brands were close to the lower limit and would be acceptable for all but tournament play. Thus, it appears that, if the pressurized can is kept sealed, the balls inside will remain reasonably fresh over an extended period of time.

All of the balls tested were claimed to be USLTA approved except the "*Pancho*" *Gonzales*, *Tru-Flite*, and *All Court*. Prices are those paid by CR shoppers in department stores and sporting goods stores for three balls in a sealed pressurized can. Most balls meeting USLTA requirements have a list price between \$2.50 and \$3 for a can of three balls, but discounts from list prices are widely available.

The tennis balls tested are listed alphabetically within the A-, B-, C-rated groups. All balls tested passed requirements for weight and diameter except as noted.

A. Recommended

Hawthorne Championship (Montgomery Ward's Cat. No. 60-5700) \$1.99, plus postage. Rebound when new, within prescribed limits. Resistance to wear, fair.

J. C. Higgins Championship (Sears-Roebuck's Cat. No. 6-1231) \$2.07, plus postage. Rebound when new, within required limits. Resistance to wear, fair.

MacGregor Tournament (The MacGregor Co., Cincinnati 32) \$2.50. The weight of one of six balls tested was less than the minimum acceptable. Rebound when new, within limits. Resistance to wear, fair.

"Pancho" Gonzales (A. G. Spalding & Bros., Inc., Chicopee, Mass.) \$1.95. The weight of one of six balls tested was above the maximum acceptable. Rebound when new, within limits. Resistance to wear, good.

Pennsylvania X-76 Championship (Pennsylvania Athletic Prod. Div., The General Tire & Rubber Co., Jeannette, Pa.) \$2.50. One of six balls tested was heavier than the maximum acceptable. Rebound when new, within limits. Resistance to wear, fair.

B. Intermediate

Dunlop Maxlife Championship (Dunlop Tire & Rubber Corp., Buffalo) \$2.25. Made in England. Three of six balls tested were weak on rebound (below minimum acceptable limit). Resistance to wear, good.

Spalding Championship (A. G. Spalding & Bros., Inc.) \$2.75. One of six balls tested was lighter than the minimum acceptable weight. Three of six balls tested had rebounds below minimum acceptable limit. Resistance to wear, fair.

Wright & Ditson Championship (A. G. Spalding & Bros., Inc.) \$2.50. Four of six balls tested had rebounds below minimum acceptable. Resistance to wear, fair.

C. Not Recommended

Penn-Craft All Court (Pennsylvania Athletic Prod. Div., The General Tire & Rubber Co.) \$1.98. Three out of three balls tested were too small, and one was below the established weight limit.

Slazenger (Slazenger, 112 E. 19 St., N.Y.C.) \$1.99. Made in England. Two of six balls tested were too light and one was too heavy. Three balls had rebounds below established minimum; the can in which these were sold was found to be without pressure. Resistance to wear, poor.

Wilson Match-Point (Wilson Sporting Goods Co., Chicago) \$1.56. Made in England. All six balls tested were too heavy. Four balls had rebounds below established minimum. Resistance to wear, poor.

Wright & Ditson Tru-Flite (A. G. Spalding & Bros., Inc.) \$1.98. All of the balls of this brand tested were found to be too small, and too light in weight.

Letters from our readers

Model airplane kits

I am interested in purchasing a kit in order to construct a remote-control airplane and would, therefore, appreciate any available information with regard to this. If there is a list of recommended manufacturers, this would also be appreciated.

E. F. T., Illinois

► You did not state whether the model airplane you are interested in is the type remotely controlled by connected wire lines (known as *U-Control* or control-line models) or the type remotely controlled by a radio transmitter-receiver system.

The control-line models are flown in a circle of 25 to 50 feet in diameter around the operator, who effects up-and-down movement of the airplane by means of wires or lines connected to a control system in the model.

A radio-controlled plane flies freely in any direction and its direction of movement is determined by radio impulses from a transmitter operated on the ground.

There are a great many kits available for control-line planes, ranging from plastic models to the traditional built-up balsa wood models.

Radio-controlled plane kits are also offered by many manufacturers, and most of these kits are of the built-up paper- or silk-covered balsa wood construction. The radio equipment, which operates on a special frequency set aside by the F.C.C., is usually made by concerns which specialize in this equipment. Simple transmitter-receiver outfits (in kit form or fully assembled) are priced from about \$20 to \$50 or more. More complex and versatile equipment may run to hundreds of dollars.

A few companies which produce kits for construction of radio-controlled and control-line planes are:
Sterling Models Co., Belfield Ave. and Wister St., Philadelphia 44, Pa.

Consolidated Model Engineering Co., P.O. Box 336, Cranbury, N.J.

Berkeley Models, Inc., Station "A," Fort Smith, Ark.

Veco Products Corp., Burbank, Calif.

Babcock Models, Newport Beach, Calif.

Spraying outdoors for mosquitoes

Can you tell me anything about an insecticide which a salesman states can be used to free large areas of a yard from mosquitoes and other insects?

S. S. P., M.D., Indiana

► One should expect only temporary relief from such spraying or fogging of a yard or lawn. In any case, the product should be used in accordance with the directions on the label.

The Plant Pest Control Division of the Agricultural Research Service, United States Department of Agriculture, advises: "Thorough spraying, misting or fogging of lawn and shrubbery areas with a number of insecticides has been found to produce temporary relief from annoyance by flies, mosquitoes and other small flying insects. These insecticides include various formulations of synergized pyrethrum, malathion, DDT, lindane, and chlordane. These treatments are frequently quite temporary in their effective action and may kill only

those insects enveloped in the fog or spray mist. In any case, great care should be exercised in spraying grass and foliage to avoid injurious effects. Oil sprays, when improperly applied, may be particularly injurious to grass and shrubbery."

Automobile parking brakes

Recently I became the owner of a Chevrolet 6 station wagon with three-speed transmission and overdrive. I was shocked to find out that it didn't have a hand brake of the sort that used to be called an emergency brake. Instead it has a "parking" brake, which is applied with pressure of the left foot and released by the hand. There is only one way to release the "parking" brake and that is abruptly.

Is this "parking" brake also intended for use as an emergency brake? If so, how does the driver simultaneously apply the "parking" brake and, as is usually done when slowing down suddenly, depress the clutch pedal, with the same (left) foot?

What is the technique for proceeding up grade, after coming to a stop on a steep hill?

B. E., New York

► The trend to foot-operated parking brakes, we believe, was brought about by the fact that many women could not apply sufficient force with a hand brake to give good holding power, and if a person of considerable muscular strength had applied the brake strongly, many women were unable to apply sufficient force to release it.

The problem is serious even with an automatic transmission, since, while the left foot is free to operate the parking brake pedal and the lever can be held in the released position, the left-hand left-foot coordination is not an easy or dependable one, and is surely unsafe in any emergency situation where the parking brake *must* be used as an emergency brake. With standard transmission, and particularly in overdrive (where there is no braking effect from the engine), the problem of braking with the parking brake, should the hydraulic system fail, is especially serious. About the only method that can be employed in a car with standard transmission is to use the left foot for the parking brake pedal, holding the lever in the released position with the left hand. This is not a safe and effective use of the brake in a tight emergency situation.

In starting up on a steep hill, the car would have to be held by the foot-operated service brakes and released at the same moment as the clutch pedal, but unless the right foot can also promptly depress the gas pedal, the car would likely stall.

The only safe and workable kind of parking brake is that which is applied and released by the same hand; this type, available on imported cars, and on several American cars (e.g., later production of *Cordairs*), locks on being pulled up, and is released by a squeezing of the same hand, a sort of one-hand coordination that is practical and reasonably safe. One must bear in mind, however, that most cars in the Chrysler line have a type of brake mechanism that has been found unsafe for emergency use, regardless of the mechanism for applying and releasing it, because it operates on the car's transmission output shaft rather than on brake shoes in the regular locations.

Frying pans with non-stick coating

It might be best to wait a while before trying any of the newest pan coatings said to eliminate the scraping and scouring of frypans

DEPARTMENT STORES in the past two or three months have been making a great feature of new frying pans in which the housewife can fry without fat, oil, or butter. "It saves you calories. . . it is a boon to the cholesterol conscious," says one ad. The feature which makes possible the non-stick cooking, and a pan which can be washed easily, is a new type of surface coating on the pan consisting of a plastic chemically known as a tetrafluoroethylene resin, called *Teflon* by duPont.

The new utensils are made and offered to department stores by a number of American, English, Italian, Swedish, and French sources. The resin coating is light gray in color, slightly striped in appearance, and slippery to the touch.

The new frying pans are said to be especially convenient for scrambled eggs, fried chicken, and fried potatoes. All that is needed in washing a pan, says the advertising, is to swish it out with a dish cloth and warm soapy water. (Directions specifically state "do not use steel wool or scouring powder.")

A wooden or rubber spatula is sold with every frying pan of the non-stick type, and users are warned to protect the pan from contact with knives, spoons, forks, or spatulas made of metal.

Some of the advertisements indicate that the non-stick coating is approved by "Pure Food and Drug Administration." Consumers' Research observed that one department store that advertised the pans in this way left the government-approval line out of later advertisements. The Food and Drug Administration did give approval to one kind of the TFE-fluorocarbon resins for use in milk-handling equipment, and later to several other varieties for additional uses. The resin has also been used for many years in industry for commercial bread baking pans, cookie sheets, and candy making equipment. DuPont claims that the resin-coated pans have the approval of French governmental agencies. Tefal of France claims approval by the Superior Council of Hygiene in France; in addition, the Imperial Chemical Industries, Ltd., has given British manufacturers its approval for the use of its polytetrafluoroethylene plastic coating, called *Fluon*, for non-stick cooking utensils.

The U.S. Food and Drug Administration had made no tests of its own of *Teflon*-coated pans and



T-Fal French-made Teflon-coated skillet. This pan is made of aluminum. Cast-iron skillets coated with tetrafluoroethylene resins are also on the market.

had not "approved" the utensils as this goes to press. In fact, the Administration has changed its policy regarding the issuance of formal approvals in the last year or two, and it is understood that the Administration does not believe that it has any jurisdiction over manufacture of or materials of pans for use in the home. Moreover, since no other government agency has jurisdiction to determine the safety of pan materials and coatings, one cannot look to any government agency to decide whether or not any sort of plastic resin-coated pans is "safe for cooking."

The pharmacologists of the Food and Drug Administration have concluded that there is "no foreseeable hazard through use of these [*Teflon*-coated] frying pans in normal cooking," and the duPont Company is firm in its belief that their *Teflon* resins are entirely satisfactory from a safety standpoint and present no health hazard.

The fluoroethylene resins have some properties which raise serious problems about their use with high temperatures. *Teflon* when heated in industrial use to about 200°C (392°F) gives off highly poisonous fumes; at temperatures of about 300°C (570°F), the fumes of *Teflon* have caused death in industry.

The high toxicity of the fumes of the tetrafluoroethylene resins is indicated by the fact that the American Conference of Governmental Industrial Hygienists established that the amount of *Teflon* decomposition products allowed in air for an 8-hour exposure in manufacturing operations is 0.005 parts per million parts of air (equivalent to the almost inconceivably small proportion of

one part in 200,000,000 parts of air). This implies a toxicity 5000 times as great as that of carbon tetrachloride, which has caused many deaths and is well known as a very poisonous substance when inhaled. A list prepared by the Committee on Threshold Limits (CTL) includes recommended values for some 300 products (Gases and Vapors, Toxic Dusts, Fumes, and Mists, Mineral and Non-Metallic Inorganic Dusts) ranging from Bromine to Trichloronaphthalene. The toxicity of *Teflon* decomposition products is equalled or exceeded by only two other exceedingly toxic substances: Pentaborane, a rocket fuel, which has a safe limit for an 8-hour exposure in industry as low as that set for tetrafluoroethylene; and nickel carbonyl for which an even lower safe limit is given.

Bulletins warning of the hazards in use of the fluorocarbon resins in industry have been issued by the National Safety Council and the California Division of Industrial Safety. The nature of the decomposition products of the hot resin is not fully understood, and the fumes produced by heat do not remain constant in composition over various temperature ranges.

Manufacturers are warned that there must be no smoking and no tobacco in clothing when *Teflon* chips, cuttings, or powders are being produced. Industry is even required to store the material as far away as possible from flammable articles so as to reduce the hazard to firemen in the event that a fire occurs. A special warning is given against contamination of cigarettes or other tobacco products with *Teflon* that might result from grinding, since inhalation of the fumes produced by the heat of burning tobacco in a pipe or cigarette acting on the minute particles present might be a cause of dangerous injury to the smoker.

We do not suggest that the hazard in industry which has been discussed here will be likely to apply to the use of a resin coating on frypans. It is important, however, to have the extreme *potential* toxicity of the material in mind in judging the possibilities for injury to the housewife in the home under exceptional circumstances or unpredictable conditions that might develop—for instance, the overheating of a pan due to failure of the homemaker to be present during some part of the cooking process.

At the present time it is understood that in addition to the widely advertised *T-Fal* French skillet, resin-treated aluminum skillets are being marketed by an English firm, Midland Aluminum, Ltd., under the name of *Nevastik*, and a cast-iron pan by Laboratory Plasticware Fabricators, Kansas City, Mo., under the name of *Happy Pan*. The 11-inch *Nevastik* is \$4.99, and the

Happy Pan sells at \$5.95. Club Aluminum Products Co. of La Grange, Ill., is marketing turquoise-colored porcelain-finished aluminum frypans lined with *Teflon* at \$7.95 for a 10-inch pan. *Algoflex* is the trade mark of a pan made in Italy.

There are available other ways of by-passing the use of shortening in cookery. One non-fat product which can be used for this purpose and which has had wide distribution is dispensed in a spray-on container, and like *Teflon* it is said to prevent foods from sticking fast to pans and to make pans easy to clean.

This product also uses the no-fat no-calories appeal. There is a warning that the container is not to be placed nor sprayed on a stove, nor heated surface, nor near open flame, nor to be stored where the temperature is above 120°F. This warning is in small type which surely many homemakers will not read, or if they read it, will not remember. The label does not indicate, as it should, what propellant is used in the pressure can, but it is said to be one of the "Freons," which are normally non-toxic in ordinary amounts, but when sprayed on a hot object produce a number of highly poisonous gases.

There is no warning about the extreme danger that might exist, as with other aerosol cans, if the housewife does not read or follow directions, or if, for example, she or a young child might thoughtlessly or by accident move the pressure can onto a hot burner or spray the liquid into a very hot pan.

Other products for treating pans to prevent foods from sticking are made with silicones, and are rubbed on.

In our opinion housewives may be tempted to give too much weight to the advantages of easy pan cleaning and forget the possible hazards in use of new and relatively untried methods.

B. Intermediate (tentative)

T-Fal Skillet (T-Fal Corp., Baltimore 18, Md.) \$6.98 for 10-in. skillet with wooden spatula.

In cooking tests, it was satisfactory for making pancakes, and for "frying" chicken, eggs, and round steak without the use of added fat. Cleaned easily with sponge and detergent-in-water solution as claimed. The scrambled eggs and pancakes had a fairly dry texture; some people prefer the taste of eggs scrambled with butter and pancakes fried in fat—but foods not fried in fat are to be preferred for health.

The *T-Fal* and other makes of pans using tetrafluoroethylene-resin anti-stick coatings are to be regarded as in a category warranting caution and special care on the part of the housewife; and no use by children or any person who will not rigorously abide by the instructions warning against overheating of the pan and its coating, and against use of a metal fork, spoon, or spatula in contact with the coating.

Commercial use of the reports of Consumers' Research is not permitted

It is stated clearly on the title page of every copy of CONSUMER BULLETIN that Consumers' Research does not permit the use of any of the material in its BULLETIN for any sales promotion, publicity, advertising, or other commercial purposes. Moreover, the material is copyrighted, and thus its unauthorized use is unlawful.

The reasons for the adoption of this general policy, in effect since Consumers' Research was founded, are obvious. Consumers' Research is organized and operated solely to serve consumers. It does not provide services to manufacturers, dealers, or salesmen, or to business concerns in general, and it is in the public interest that it should not be identified with them or their claims for their goods, either directly or in any form of publicity or advertising they may employ to further the distribution and sale of their products.

Although this policy is generally well known and fully respected by a very large majority of manufacturers and others concerned, we nonetheless receive many, many requests each year for permission to reprint articles, reproduce parts of articles, or quote from them for the purposes of competitive selling of products. These requests are invariably denied, but requests to reprint are usually granted in those few instances where it is plain that the material is to be used for a non-commercial purpose and in the public interest. We are glad to permit reprinting of articles of general interest, such as those dealing with fat in the diet, contact lenses, safe design and use of electrical appliances, and how to select the right fire extinguisher, because such articles are of direct concern to the ultimate consumer and reprinting affords a means of reaching many consumers who might not see the article in our BULLETIN. Reprinting, however, is permitted only upon written request and with proper credit to CONSUMER BULLETIN.

Unfortunately, there are occasional instances of manufacturers, distributors, dealers, and others disregarding our policy at certain times and using BULLETIN material without our authorization, permission, or knowledge in newspaper or magazine advertising or on radio or television.

In such instances the reference made to a particular brand may take one of the following forms:

Recommended by Consumers' Research
Rated by Consumer Research magazine as the
finest on the market

Rated "No. 1—Recommended" by famous Consumer Research Bulletin!

Rated tops by Consumers' Research

Rated No. 1 by Consumers Magazine (when true in a sense, may mean merely that the product's name happened to be first in an alphabetically arranged list of recommended items)

"A" Recommended by Consumers' Research

In other advertisements, a more verbose statement may be used such as:

For the third consecutive time Consumers' Research magazine selected the _____ as the world's finest small piano. . . Recommended as the year's best buy!

Such statements are not only unauthorized and improper; they are almost always false and misleading in one or more respects.

It must be admitted that more often than not misuse of our BULLETIN material and name originates with the local dealer rather than at the company or distributor level. In a recent instance, for example, the sales manager of a large corporation requested but was denied permission to reprint an article in which his product, a television set, received a favorable rating. Nevertheless, a distributor acted on his own, without the manufacturer's authorization, and sent out copies of the article. We know that he will think twice before using copyrighted material again.

It is well to remember that if a company does use our findings for advertising purposes, the advertising will in nearly every case be false or misleading in some respect, usually in very essential respects (omission, for example, of unfavorable information or comments). There have even been cases in which dealers claimed top recommendation for a product that CR had actually rated *C. Not Recommended*.

We are most thankful to those of our subscribers who are aware of our position and send us copies of advertisements or advertising leaflets in which the BULLETIN or BULLETIN findings are mentioned, or write and tell us when the material is similarly used on local radio and TV stations. Normally, it will suffice to send a copy of the advertisement if it is a printed one, and contains the name and address of the company or dealer. When we are so informed, we take immediate steps to bring a stop to the misuse of our findings.

DEHUMIDIFIERS

Machines for removing excess moisture from the air of a room

If damp air indoors presents problems in your home, a dehumidifier may provide a satisfactory solution

A STRETCH of damp weather has an adverse effect on our personal feeling of comfort and well being; it can also damage many of our possessions because it tends to promote rusting, rotting, warping, and the formation of mildew and mold. It may cause serious damage to shoes, garments, luggage, books, and other things of value. Excessive moisture may cause furniture veneers to crack, table tops to warp, floor tiles to loosen, and wallpaper to peel.

Approximately 300,000 electric dehumidifiers were sold last year, a fact which indicates that a good many people felt they had to take measures against the inroads of dampness and molds in at least one room of the house, or its basement. The principle of operation of these appliances is illustrated by a common phenomenon we are all familiar with, especially on a warm, humid summer day—the sweat on the outer surface of a glass of ice cold water.

The mechanism employed in a dehumidifier comprises condenser and evaporator coils con-

nected to a refrigerant compressor and, in addition, a fan which blows the room air over the coils. As the room air is circulated continuously past the cold coil of the evaporator (which corresponds to the surface of our glass of ice water), some of the water vapor in the air is condensed on the surface of the coil; it drips or drains from the surface of the coil into a container or pan in the base of the dehumidifier. Thus the amount of water vapor present in the air is gradually reduced.

Limitations governing effectiveness of dehumidifiers

There are certain conditions which must be met if a dehumidifier is to function to advantage. Doors, windows, or other openings, for example, in the room or area in which it is used should be tightly closed. (Most dehumidifiers are purchased for use in basements or cellars.) On a muggy day, an open door or window or ventilation opening allows outside humid air to enter and offset any lowering of the humidity that it might be possible to attain with the area closed off.

A dehumidifier is so designed that the evaporator coils do not get too cold during normal operation. If, however, the temperature of the air in the room is too low—below about 60°F for most models—the water vapor from the air will form frost on the coils and there will be very little further dehumidifying action except for the small amount rep-



Fedders Custom DC

Berna Air King DH10D



resented by the slow build-up of the frost layer.

Another factor besides the room temperature which directly affects the amount of water removed is the relative humidity, the amount of water vapor present in the air compared with that present when the air is "saturated" with moisture. In Consumers' Research's tests of the *Fedders* unit, for example, it was found that about 32 pints of water were removed by the unit in 24 hours when the air in the test room was maintained at 90°F and 90 percent relative humidity. In a second test, made at the same temperature but with the relative humidity maintained at 60 percent (about one third less water vapor in the air), only 19 pints of water (60 percent as much as before) were removed in 24 hours. In a third test, in which the humidity was maintained at 60 percent but the temperature was reduced to 70°F, only 11 pints of water were removed.

As the appliance does its job, it will remove less and less moisture until the moisture removal rate becomes stabilized for the temperature and humidity conditions that exist in the room. Hence one should not assume that the appliance is in need of service simply because it does not remove an amount of moisture equal to its rated daily capacity each day; it will do that only when the air is very warm and very humid.

Moist or damp cellar walls and floors can be caused either by condensation of moisture from the air on the cool areas or by seepage of water

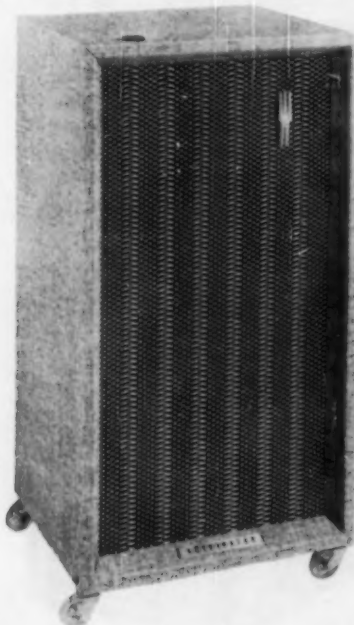
through the walls from the ground with which they are in contact. If the moisture enters by seepage, a dehumidifier may very often not provide a solution to the problem. If, however, the walls become dry after a reasonable period of operation (possibly 3 to 7 days), the dehumidifier may be expected to continue to be effective (and the molds, and water bugs and other insects attracted to wet or damp areas will seek wetter pastures).

One should not be misled into believing that a dehumidifier will tend to cool the room in which it is placed. Actually, it will add considerable heat to the room, for the electricity used to operate it, about 500 watts typically, will appear as heat (about 1700 Btu per hour) and each pint of water condensed liberates an additional 1000 Btu to the air of the room.

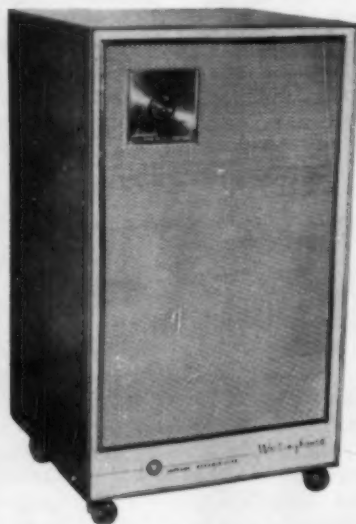
Accessories that may be needed

Consumers' Research's tests indicated that the brands included were about equal in their ability to remove moisture from the air and in over-all quality of construction with one exception, the *Coldspot* (see listings). Thus, the choice of a model for purchase would normally be based primarily on price, on the character and probable business responsibility of available local service facilities, and on your need for certain "extras" which are available on some models but not on others.

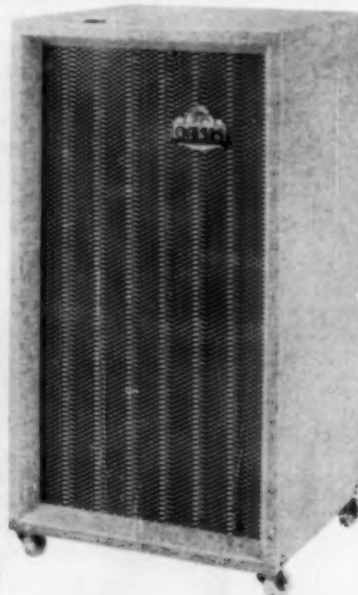
The purchaser of a dehumidifier specifically



Kelvinator KSD-32



Westinghouse ESO 6000



Oasis Super Deluxe SD-32

for use in a cellar in which there is no convenient access to a sewerage drain pipe would likely have to carry the water collected to an upstairs sink or take it outdoors in a bucket. In these circumstances, there would be no immediate need for a model which provides a connection for a drain hose.

A user who is willing to keep tabs on conditions and turn the unit on and off as required, will have no need for a humidistat which automatically turns the unit on when the humidity is high, and off again when it has been lowered. Although this accessory adds several dollars to the price of the appliance, most persons will find it desirable, and it will in most instances pay for itself, in time, in reduced bills for electricity.

If the appliance is allowed to run continuously, it can be a considerable expense. On the models tested, for example, 90 days of continuous operation will use about \$35 worth of electricity. Fortunately, a dehumidifier does not require a special wiring installation; it is just plugged into the usual wall or baseboard outlet.

The methodical type of consumer who always does things on a strict schedule can get along with a model which does not have a shut-off switch activated by the level of the water in the collector pan. For others, which means most of us, it would be wise to make sure the model purchased does have an automatic cut-off switch. There is little sense in wringing moisture out of the air, and then having to mop it up if a neglected container overflows.

Electrical hazards

A dehumidifier presents an especially dangerous potential shock hazard because it will normally be used in damp or wet areas where the humidity is high and floors more or less conductive. All but one of the models was found reasonably safe electrically and each passed successfully a high-voltage breakdown test indicating that the connecting wiring, switches, and motor-compressor may be expected to remain safe electrically for a reasonably long period. It should be stressed, however, that a dehumidifier, indeed any electric appliance, should be unplugged and taken out of use immediately if on any occasion it delivers the slightest shock or tingle when any accessible part of it is touched (a special danger to children).

Noise level of the machines tested was satisfactorily low except as noted. The listings following are in alphabetical order within the *A*- and *B*-rated groups.

A. Recommended

Berns Air King, Model DH10D (Berns Air King Corp., Chicago) \$90. Weight, 49 lb. Vinyl-covered steel cabi-

net mounted on 4 casters. Size, 19½ in. high, 13 in. wide, 18½ in. deep. Rated power input, 530 watts. Compressor rated at 1/5 hp. Collecting container, steel pan; capacity, 16 pt. A fitting provides for permanent drain connection. Humidistat-type control (see text), and one to turn machine off and light a red warning light when the pan is full. Moisture removal rate, 31 pt. per 24 hr. at 90°F and 90% relative humidity.

Fedders, Custom Model DC (Fedders Corp., Maspeth 78, N. Y.) \$88. Weight, 60 lb. Painted metal cabinet mounted on 4 casters. Size, 18½ in. high, 15¼ in. wide, 19 in. deep. Power input, 540 watts. Compressor rated at 1/5 hp. Collecting container, steel pan; capacity, 20 pt. Fitting for permanent drain connection. Has humidistat-type control and a float valve in collector pan which turns unit off and lights a red warning light when the pan is full. Moisture removal rate, 32 pt. per 24 hr. ¶Models *DF*, *DH*, and *DS* have similar mechanisms but are lacking in one or more of the accessory controls present on the *Model DC*; they are therefore less expensive.

Kelvinator, Model KSD-32 (Kelvinator Water Coolers and Dehumidifiers, Columbus 13, Ohio) \$120. This model is identical with the *Oasis Model SD-32* tested, except for the color of the cabinet finish.

Oasis Super Deluxe, Model SD-32 (Ebco Mfg. Co., Columbus 13, Ohio) \$120. Weight, 55 lb. Vinyl-covered steel cabinet mounted on 4 casters. Size, 23½ in. high, 12 in. wide, 10 in. deep. Power input, 550 watts. Compressor rated at 1/5 hp. Collecting container, plastic pan; capacity, 16 pt. Fitting for permanent drain connection. Humidistat-type control, but no means to prevent overflow or to warn that pan is filled. Moisture removal rate, 32 pt. per 24 hr.

Westinghouse, Model ESO 6000 (Westinghouse Electric Corp., Dehumidifier Dept., Columbus, Ohio) \$90. Weight, 62 lb. Painted metal cabinet, mounted on 4 casters. Size, 22½ in. high, 12½ in. wide, 19 in. deep. Power input, 480 watts. Compressor rating not marked; appears to be 1/8 hp. Collecting container, plastic pan; capacity, 20 pt. Fitting for permanent drain connection. Humidistat-type control, but no means to prevent overflow or to warn that pan is filled (a kit is available at extra cost). Moisture removal rate, 32 pt. per 24 hr.

B. Intermediate

Coldspot (Sears-Roebuck's Cat. No. W47-1415N) \$99.95, plus shipping. Weight, 60 lb. Vinyl-covered metal cabinet mounted on 4 casters. Size, 17½ in. high, 12 in. wide, 19¾ in. deep. Power input, 540 watts. Compressor rated at 1/5 hp. Collecting container, plastic pan; capacity, 16 pt. A threaded fitting provides for a permanent connection to a drain. Humidistat-type control. The *Coldspot* lacked means to prevent overflow or to warn when the pan was filled. Moisture removal rate, 47 pt. per 24 hr. Noise level while operating, a slight "whirring" or "whishing" noise, judged not objectionable. Leakage current, relatively high; the appliance would otherwise be worthy of an *A-Recommended* rating.

● OFF THE EDITOR'S CHEST

Don't buy abroad what you can get at home. . .

SHOPPING is a favorite American pastime and those who are spending their vacations in foreign lands this summer will undoubtedly look upon a tour of the local stores and markets as important a form of recreation and enlightenment as viewing the historical sites. If you aren't familiar with the variety of merchandise offered in big city markets in this country, you will be wise to do some comparative shopping here before you take off.

At least make a tour of a variety chain store such as Woolworth's on State Street, Chicago, or Fifth Avenue, New York City, or one of those in other big cities to see just what qualities and varieties are being offered. One tourist who fell hard for some little India brass slipper ash trays selling at 75 cents each in a Caribbean port, brought a dozen back to New York City, where they were selling at 49 cents. Remember that store buyers go on tours also, and often arrange for imports in thousand lots at low prices of a variety of small items that will sell for less here than will be charged those who are regarded as rich American tourists.

In making purchases abroad, do your buying in shops of good repute, in which you can examine the goods at leisure and make your payments by travelers' checks. Always get a receipted, legible, clearly worded sales slip. You may be intrigued by street peddlers who seem to offer excellent buys and colorful merchandise, but you will usually be wise to capture the picturesque quality of their operations on film and pass up the wares. As seasoned travelers will tell you, patronizing a street peddler may give a pickpocket an opportunity to rifle your purse or wallet. You may get inferior or damaged merchandise. It may even have been stolen. French perfume bought "off the street" is frequently watered or counterfeit. Jewelry may be of a quality that you could get at the five-and-dime store at home. Handkerchiefs may be cotton instead of linen as represented. Silver may turn out to be merely shiny plated white metal. Articles of wood are likely to have defects and to be poorly finished. The list of possible gyps is long.

There are, of course, certain bargains to be found in foreign shops by the careful shopper. If you have the money and room in your luggage, don't hesitate to buy them, if you know the type of article well enough to judge its quality and value. Each country has its own specialty. Artistic, attractive, useful items that reflect the

culture and production of some particular spot make delightful souvenirs. It is true that wines, liquor, and cordials are always cheaper abroad than at home, because of the high U.S. taxes. Good brands of Scotch and Bourbon, for example, are usually sold for \$2.50 to \$3.50 a fifth, less than half the U.S. price. Swiss watches, German and Japanese cameras of the better grades, woolen and silk fabrics, perfumes, gloves, and some ceramic pieces are often good buys. Remember that sizes are different in foreign lands and that it is necessary to try garments on carefully for fit and style before you buy them. Children's toys, dolls, hand-carved figures, and music boxes are attractive novelties, which you may not always find in stores in the U.S. Keep in mind that repairs of cameras, replacement of patterns of dishes that are broken in subsequent use, and matching designs of silver flatware may present some difficulties with foreign purchases.

If you are buying a car abroad, better check with your local license bureau and the American Automobile Association, if you are a member. The alluring prices quoted in travel ads are usually for cars built to European specifications for sale in Europe. They cannot be driven in the United States unless they are equipped with safety glass, sealed-beam headlights, reinforced bumpers, directional signals, and other safety equipment. It is estimated that these additions will add something like \$60 to \$125 to the advertised price of a foreign car. There are also the charges for preparing the car for export, plus the transportation, and duty. One travel expert puts an over-all figure of \$200-\$300 as the amount to be added to the quoted European price to arrive at the delivered price of a car at East Coast ports. To apply the tourist allowance of \$500 duty-free exemption for foreign purchases to the car, it is necessary to prove that the purchase was incidental to the trip and that no arrangements were made prior to departure. The purchaser may not sell the car within three years without paying the duty claimed under the \$500 per person exemption. If arrangements are made through an authorized U.S. dealer for a particular foreign car, the easiest way to handle the transaction, you may expect to pay duty that will amount to something like \$42.50 per \$500.

In making important purchases abroad, it is advisable to keep in mind that there are certain items that cannot be brought back to the United States by tourists. The list varies from time to

time, but some unlucky travelers have had *Georg Jensen* silverware confiscated at the pier. Other items that cannot be brought in have been *HMV* recordings, *Selmer* musical instruments, certain cameras, and certain perfumes. Many French perfumes are restricted to one bottle of each scent per person and the one-per-person restriction also applies to *Movado* watches. You should be able to obtain a copy of the current list from the Customs Bureau of the U.S. Treasury Department. Reputable merchants abroad will be familiar with the current regulations, but be sure they have the information in written or printed form; it's not a matter on which one can afford to be guided by guess or biased advice.

Since the federal government is frowning on tourist spending abroad this year, you may wish to restrict your gift and souvenir buying somewhat. Actually you will find almost everything that is sold abroad in New York City and some other big city shops, at no great—if any—increase in price. If you live inland, plan to come back a day or two early and explore the city. Don't confine your shopping expeditions to the big department stores. Many bargains from abroad are to be found in small shops in widely scattered sections.

Get a map of New York City from the Texaco Touring Center, 300 Park Avenue (50th Street), and a subway map from the change booth at any

big subway station. All kinds of Oriental novelties, jewelry, art objects, and ceramics will be found in Chinatown in the Pell, Mott, and Doyers Streets section. In Allen Street near Delancy and Grand are small shops that specialize in brass work. The diamond, watch, and old jewelry market that used to be located near Bowery and Canal has now moved up to the 40's, with many shops along West 47 and 48 Streets between 6th (Avenue of the Americas) and 7th Avenues. Antiques are plentiful on Second and Third Avenues from the 40's to the 60's and above. Even smart little dress shops are making an appearance in that area. Novelty jewelry from many lands will be found in shops on Broadway above 40th Street and on Fifth Avenue above 28th Street.

If you are a shrewd shopper, you will undoubtedly find bargains or treasures abroad. If you have money, and room in your luggage, don't hesitate to get them. You may not have time to look for them again elsewhere. But if you have passed up something that you wish you had gotten, look for it in New York City or perhaps San Francisco or New Orleans. The chances are ten to one you'll find it, and have fun looking for it in your own country and in English, without the handicap of a phrase book.

Pleasant journey!

Charcoal ignition devices

A BACK YARD BARBECUE of chops, steaks, or hamburgers, made over a bed of glowing charcoal is a pleasant prospect for many this time of the year. One sometimes discouraging aspect of a charcoal fire is the close attention one must give to the task of igniting the charcoal.

There are many methods for starting charcoal, including starter fluid, a light petroleum similar to kerosene but lacking its odor, and the electric starter. One should never use gasoline, kerosene, or lighter fluid for these liquids are very dangerous and have caused terrible burns, even deaths, when used with charcoal. A special starter fluid, which has a relatively high flash point, should be used instead, but one should never have more than one pint at a time (and it must be in metal, not a glass container).

Recently, a number of electrical devices have been put on the market and sold for the purpose of starting charcoal for grilling. Consumers' Research purchased one such device, the *Fyre-Start'r*, from a mail-order house and subjected it to the usual tests for electrical safety. The *Fyre-*

Start'r was found to have a dangerous amount of leakage current, even before it became red hot. Since the metal heat shield on the device was directly fastened to the element, it was possible to obtain a severe shock even when the heating element was much too hot to touch. Since this device is meant for use outdoors on patios, or on damp ground, etc., even a slight amount of electrical leakage has a chance of causing a dangerous shock hazard.

Even though the *Fyre-Start'r* is now listed by the Underwriters' Laboratories, the sample tested by Consumers' Research showed considerably more leakage current than Consumers' Research deems safe for outdoor use, indeed, more than we would consider safe for any use, either indoors or out.

One of the best, and safest, ways to start a charcoal fire (if not the fastest) is to build a small fire from shavings or kindling wood and gently spread the charcoal over this fire when it is burning well. Here's for happy and safe barbecuing for the coming season.

Phonograph Records

BY WALTER F. GRUENINGER

Please Note: Stereo records are indicated by the symbol Ⓢ. Ratings (AA, A, B, etc.) apply first to the quality of interpretation, second to the fidelity of the recording. Most performances are available on both stereo and regular LP records.

Ⓢ**Berlioz: *Symphonie Fantastique*.** Vienna State Opera Orchestra under Golschmann. Vanguard SRV 120/SD. \$2.98. Berlioz's popular, imaginative, passionate suite has been recorded often but this one stands near the top of the heap. It gives no ground in sound which is stunning, and the interpretive qualities show Golschmann at his best. A big bargain at \$2.98. AA AA

Ⓢ**Schumann: *Four Symphonies, Manfred Overture*.** Cleveland Orchestra under Szell and *Piano Concerto*. Leon Fleisher (soloist). 8 sides, Epic BSC 110. \$23.92. Schumann's symphonies follow in line with Beethoven's, but the present generation of concert goers thinks less of them than do their parents. Here are the glorious four, all Schumann wrote, with the celebrated *Manfred Overture* and the *Piano Concerto* as a bonus. Szell's not one to dote on a phrase. He lets the music speak for itself—with precision! This quality helps him make the most of the slow movements which have a tendency to fall apart unless firmly controlled. And it is obvious from the booklet which accompanies the set that Szell thinks highly of this music. In the concerto, Fleisher does well, though not quite so well as some of his competitors. The Epic sound favors the lower end of the scale, but it is round, good. A A

Ⓢ**Stravinsky: *Le Sacre du Printemps* and *Petrushka*** (4 sides). Columbia Symphony Orchestra under the Composer and *Apropos of Le Sacre*. Stravinsky (1 side). Columbia D 3S 614. \$11.96. One of the foremost composers of our time conducts two of his controversial, trail-blazing masterpieces. Remarkable clarity and smoothness in the recording make the set particularly valuable, for you hear every instrument. Less exciting sound than in some of the other good recordings which emphasize the bass and lead to louder climaxes. On the 5th side, Stravinsky discusses how he came to compose *Le Sacre*, the scandal at the first ballet performance, his triumph at the succeeding concert performance, and other points of interest. Columbia has prepared an attractive, informative booklet with many pictures of Stravinsky, and has packaged the set in a special plastic box. Surely one of the outstanding sets of the year. AA AA

Ⓢ**Wagner: *Tristan und Isolde*.** Nilsson, Uhl, Resnik, Krause, etc., under Solti. 10 sides, plus *Rehearsal* excerpts (2 sides). London OSA 1502. \$29.90. Motion's at a minimum when this opera takes over the stage so perhaps it's just as well enjoyed on a high-fidelity set in the comfort of your home. Birgit Nilsson lacks color here and there but, on the whole, her performance of Isolde calls for praise. Fritz Uhl's voice sounds youthful, but more authority and ring would better fit the Heldentenor role of Tristan. Yet, in lyric moments he sings beautifully. Regina Resnik as Brangaena seems miscast. Tom Krause as Kurwenal could hardly be better. It is not often you get more out of the music than conductor Solti gives you, within the limits of his singers. Depth and wide dynamic range in the recording, too—excellent in this respect. The rehearsal disk adds insight. . . . The most thrilling Isolde of our time, Flagstad, working with the great conductor Furtwängler, can be heard on Angel Set 3588 E/L. The mono recording of nearly a decade ago falls short of the new stereo London Set, though it's still serviceable. A AA

Folk Songs of Many Lands. Paul Evans (singer). Carlton 12/130. \$3.98. In some respects Evans sounds like Burl Ives. Clear enunciation, simple approach, pleasing voice. He sings "Passing Through," "Kevin Barry," "Tzena Tzena," "The Bomb," "Poor Boy," and similar tunes. Very well recorded. Four or five instrumentalists in the background. AA AA

Ⓢ**Ivor Novello's Music Hall.** Eric Johnson and His Orchestra. Westminster WST 14134. \$4.98. The versatile Britisher, Ivor Novello, composed these sweet tunes for

musicals which had good runs abroad in the '30s and '40s. The musicals include "The Dancing Years," "Crest of the Wave," "Perchance to Dream," "Glamorous Night." The tunes are exceedingly well played and the sound is full, gorgeous. AA AA

Ⓢ**Leontyne Price** (soprano). RCA Victor LSC 2506. \$5.98. Arias from *Aida*, *Il Trovatore*, *Madame Butterfly*, *La Rondine*, *Tosca*, *Turandot*. Miss Price has been well received at the Metropolitan Opera in her first season, just passed. Included are some of the arias she sang there. She does best in high-pitched, dramatic parts, singing expressively, and with personality. On the whole, a very welcome debut album of an exciting, mature American soprano. Marvelous sound. AA AA

Ⓢ**Mandolins!** Dave Apollon and Stringed Orchestra. Coral CRL 757342. \$4.98. An expert on the mandolin, backed by an orchestra of mandolins, lutes, guitars, accordions, etc., runs through "Come Back to Sorrento," "Turkish March," "Misirlou," "Dark Eyes." AA AA

Ⓢ**Operatic Choruses.** Robert Shaw Chorale. RCA Victor LSC 2416. \$5.98. I can't imagine a better performance and recording of this music at this stage of the art. Shaw's built a reputation on choral conducting, and he shows why. Young, fresh voices, spirited conducting. Included are choruses from *Carmen*, *Tales of Hoffmann*, *Faust*, *Nabucco*, *Lohengrin*, *Rigoletto*, etc. AA AA

Ⓢ**Rhapsodies.** RCA Victor Symphony under Stokowski. RCA Victor LSC 2471. \$5.98. Included are Liszt's *Hungarian Rhapsody No. 2*, Enesco's *Rumanian Rhapsody No. 1*, Smetana's *The Moldau* and *Bartered Bride Overture*. It appears Stokowski is recording for stereo many of the items he first recorded for 78 rpm. disks, then recorded again for LP's. This disk clearly discloses the sound Stokowski prefers, and in many respects it is way ahead of the average orchestral recordings. In a couple of brief moments his orchestra lacks precision. Otherwise a typical Stokowski performance, with emphasis on gorgeous sound. A AA

Ⓢ**Ruggiero Ricci Solo Recital** (violin). London CS 6193. \$5.98. Music for violin alone—principally Sonatas by Bartók, Prokofiev, and Hindemith. On a memorable night this past winter, in Carnegie Hall, Ricci played most of these pieces and several others. I wondered then whether there was another violinist in the world who could match him in an evening's performance of this unique, demanding repertoire. Now I think there isn't. Marvelously recorded. AA AA

Rumanian Wedding. Vocalists and Orchestra. Monitor MF 348. \$4.98. Lively, earthy tunes recorded in Bucharest. If you like the hora, syrba, and the briu you will probably like this oriental-flavored music. The rough-hewn performance seems to fit perfectly. Acceptable recording. AA A

Ⓢ**Serenade for Strings.** The Strings of the Philadelphia Orchestra under Ormandy. Columbia MS 6224. \$5.98. Lovely music featuring Tchaikovsky's "Serenade for Strings," Barber's "Adagio for Strings," Vaughan Williams' "Fantasia on Greensleeves." Nearly every listener who enjoys string music will enjoy this frequently wonderful disk. The players collaborate beautifully under Ormandy's skillful direction. Praiseworthy reproduction, also. AA AA

Ⓢ**Songs of Tchaikovsky.** Boris Christoff (bass). Capitol SG 7236. \$5.98. Here are 14 of the 106 songs Tchaikovsky wrote for solo voice. And on this disk, what a voice is Christoff's! The songs vary from "Don Juan's Serenade" to "Child's Song," from "The Canary" to "None But the Lonely Heart." Obviously, Tchaikovsky was a magnificent melodist whose songs go right to the heart. Provided is a translation from the Russian of the songs sung by Christoff. I can't imagine these songs sounding as effective in any other language. AA AA

Ratings of Current Motion Pictures

THIS SECTION aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 17 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Boxoffice, Cue, Daily News (N. Y.), The Exhibitor, Films in Review, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency, New York Herald Tribune, New York Times, The New Yorker, Parents' Magazine, Release of the D. A. R., Preview Committee, Reviews and Ratings by the Protestant Motion Picture Council, The Tablet, Time, Variety (weekly).

The figures preceding the title of the picture indicate the number of critics whose judgments of its entertainment values warrant a rating of A (recommended), B (intermediate), or C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Anaco, Eastman, Technicolor, Trucolor Warner Color, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fan—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
sci—science fiction
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		A	B	C	
3	13	—	Absent-Minded Professor, The.com AY C	—	—	3	Curse of the Undead.....wes A
—	1	2	Ada.....dr A	—	5	3	Curse of the Werewolf (British)..mel-c A
—	—	—	Adventure, The (see L'Avventura)	—	1	2	Date Bait.....soc-mel AY
—	5	5	All Hands on Deck.....mus-com-c AY C	—	1	2	Day of the Gun, The.....nov-c A
1	9	4	All in a Night's Work.....com-c A	1	10	2	Days of Thrills and Laughter..com AY C
—	2	1	Amazing Mr. Callaghan, The (French).....mys-mel A	—	—	3	Dead One, The.....cri-mel A
—	3	4	Amazing Transparent Man, The.....sci-dr AY	—	2	1	Deadly Companions, The.....dr A
—	1	3	Angel Baby.....dr A	—	7	3	Desert Attack (British).....war-dr AY C
2	8	1	Angry Silence, The (British).....dr A	—	1	3	Devil's Commandment, The (French).....cri-mel A
—	—	3	Anna's Sin (Italian).....dr A	—	3	2	Dondi.....dr AY
—	4	5	Atlantis, the Lost Continent.....sci-c A	—	4	8	Esther and the King (Italian)..adv-c A
—	1	2	Atlas (British).....adv-c AY	—	4	7	Exodus.....nov-c AY
—	2	1	Back Street.....dr-c A	—	3	1	Eye for an Eye, An (French)....dr-c A
1	3	—	Bernadette of Lourdes (French).biog AY C	1	5	—	Fabulous World of Jules Verne, The (Czechoslovak).....adv AY
—	1	2	Big Bankroll, The.....cri-mel A	—	10	3	Facts of Life, The.....com-c A
1	10	—	Big Deal on Madonna Street (Italian).....cri-com AY	—	3	1	Fanny.....mus-dr-c A
—	2	1	Big Gamble, The.....dr-c A	—	—	3	Fast Set, The (French).....com A
1	2	3	Big Show, The.....mel-c AY	—	2	3	Ferry to Hong Kong (British).....mel-c AY
—	1	2	Big Wave, The (Japanese).....dr A	—	6	4	Fever in the Blood, A.....dr A
—	2	4	Bimbo, The Great (German)....mel-c AY	—	2	3	Fiercest Heart, The.....mel-c AY
—	6	2	Black Sunday (Italian).....cri-dr AY	—	1	2	Five Golden Hours (British)....com A
—	3	—	Black Tights (British).....mus-dr-c A	—	2	5	Five Guns to Tombstone.....wes AY
—	3	1	Blast of Silence.....cri-dr A	—	1	6	Follow a Star (British).....com A
—	2	3	Blood and Roses (Italian).....dr-c A	—	3	—	Four Desperate Men (Australian).mel AY
—	8	3	Blueprint for Robbery.....cri-dr AY	—	5	5	Foxhole in Cairo (British).....war-mel A
—	3	2	Bowl of Cherries, A.....mus-fan AY	—	6	3	French Mistress, A (British)....com A
—	2	1	Breakfast at Tiffany's.....dr-c A	—	4	2	Frontier Uprising.....wes AY C
—	3	7	Breathless (French).....cri-dr A	—	1	2	Gambler Wore a Gun, The.....cri-mel AY C
2	4	2	Bridge, The (German).....war-dr A	—	2	1	Gidget Goes Hawaiian.....com-c A
—	1	4	Caltiki, The Immortal Monster (Mexican).....sci A	—	—	3	Girl in Lover's Lane, The.....mel A
—	6	2	Canadians, The.....dr-c AY	—	—	3	Girl in Room 13.....mys-mel-c A
—	2	3	Carmen Comes Home (Japanese).com A	—	3	9	Go Naked in the World.....nov-c A
—	3	8	Carthage in Flames (Italian)....mel-c A	—	6	4	Gold of the Seven Saints.....wes AY
1	8	6	Cimarron.....nov-c AY	10	2	—	Gone With the Wind (reissue)....nov-c AY
—	6	6	Cinderella.....mus-fan-c AY	—	7	4	Gorgo (British).....adv-c AY C
—	6	6	Circle of Deception (British)....war-dr A	1	3	—	Great Day, The (Spanish).....dr AY C
—	3	1	Code of Silence.....cri-mel AY	—	10	3	Great Imposter, The.....dr A
—	—	3	Cold Wind in August, A.....mel A	—	2	1	Green Helmet (British).....mel AY
—	2	1	Come September.....com-c A	—	3	—	Greengage Summer (British)....dr-c A
—	2	1	Counterfeit Traitor, The.....war-dr-c AY	—	2	1	Guns of the Navarone, The (British).....war-dr-c AY
—	—	4	Crazy for Love (French).....com A	—	3	—	Half Pint, The.....com AY C
—	7	8	Cry for Happy.....war-com-c A	—	3	1	Hand, The (British).....war-mel AY
—	3	1	Cry Freedom (Filipino).....war-mel AY	4	8	2	Hand in Hand (British).....dr AY C

A	B	C	
—	3	—	Hatari!.....mel-c AY
—	3	6	Herod the Great (Italian).....mel-c A
—	2	3	Heroes Die Young.....war-mel A
—	2	1	High School Caesar.....mel AY
—	4	1	Hippodrome (German).....mel-c A
1	6	1	Home Is the Hero (Irish).....dr AY
—	1	2	Homicidal.....cri-mel AY
3	9	3	Hoodlum Priest, The.....soc-dr AY
—	3	—	Horse with the Flying Tail, The.....dr-c AY
—	3	—	Islands of the Sea.....doc-c AY
—	3	—	It Happened in Rome (Italian).....com-c A
—	2	1	It Takes a Thief (British).....cri-dr A
—	3	4	Jazz Boat (British).....mus-cri-dr A
—	2	4	Kanal (Polish).....war-dr A
—	3	2	Konga.....sci-c AY
—	—	—	La Dolce Vita (see Sweet Life, The)
—	1	2	Ladies' Man, The.....com A
—	—	—	Last Sunset, The (see Day of the Gun)
—	3	7	L'Avventura (Italian).....dr A
1	9	2	League of Gentlemen, The (British).....cri-mel AY
—	7	1	Left, Right, and Center (British).....com A
—	3	—	Life and Loves of Mozart, The (German).....mel-c A
—	3	—	Little Angel (Mexican).....dr-c AY
—	4	3	Long Rope, The.....wes-c AY
—	2	5	Look in Any Window.....soc-dr A
—	7	5	Love and the Frenchwoman (French).....dr A
1	3	1	Macario (Mexican).....fan AY
—	1	2	Maciste in the Land of Cyclops (Italian).....adv-c A
—	1	3	Mad Dog Coll.....cri-mel A
—	—	3	Magdalena (German).....soc-dr A
—	3	—	Magic Boy (Japanese).....car-c AY
—	3	—	Mailbag Robbery (British).....cri-mel AY
—	3	—	Man Who Wouldn't Talk, The (British).....cri-dr A
—	1	2	Mania (British).....cri-mel A
—	1	2	Mark of the Devil (Mexican).....mel A
—	3	1	Master of the World.....sci-c AY
—	1	3	Matter of Morals, A (Swedish).....dr A
1	2	4	Mein Kampf.....biog-doc A
—	1	2	Mighty Crusaders, The (Italian).....mel-c AY
—	6	11	Millionairess, The (British).....dr-c A
—	1	3	Minotaur, The (Italian).....mel-c A
—	7	7	Misfits, The.....dr-c A
1	3	—	Misty.....dr-c AY
—	1	3	Model for Murder (British).....cri-mel A
—	4	4	Modigliani of Montparnasse (French).....biog A
—	—	3	Monster of Piedras Blancas, The.....mel AY
—	3	—	More Deadly than the Male (British).....cri-mel A
—	2	1	Morgan, the Pirate (Italian).....adv-c A
—	—	3	Night of Love (French-Italian).....war-dr A
—	3	—	Nikki, Wild Dog of the North.....mel-c AY
—	3	—	No Love for Johnny (British).....dr A
—	2	1	Okefenoke.....mel A
—	3	1	Ole Rex.....dr-c AY
4	9	2	101 Dalmatians.....car-c AY
4	8	5	One-eyed Jacks.....wes-c A
—	2	5	Operation Bottleneck.....war-dr A
—	6	4	Operation Eichmann.....propaganda-dr A
1	3	1	Parent Trap, The.....com-c AY
—	6	6	Parish.....dr-c A
—	4	6	Passport to China (British).....mys-dr-c AY
—	—	4	Pharaoh's Woman, The (Italian).....mel-c A
—	2	1	Picnic.....dr-c A
—	6	1	Please Turn Over (British).....dr A
1	3	—	Pleasure of His Company, The.....com-c AY
—	6	3	Police Dog Story, The.....cri-dr AY
—	5	4	Portrait of a Mobster.....cri-mel A
—	2	2	Portrait of a Sinner, A (British).....dr A

A	B	C	
—	2	3	Posse from Hell.....wes-c AY
—	1	2	Price of Silence, The.....mys-mel A
—	2	1	Prisoners of the Congo.....mel-c A
—	3	—	Queen's Guards, The (British).....dr-c AY
2	5	—	Question 7.....propaganda-dr AY
—	6	4	Rachel Cade (British).....dr-c A
7	5	2	Raisin in the Sun, A.....dr AY
—	4	5	Return to Peyton Place.....dr-c A
—	1	2	Right Approach, The.....com A
—	3	1	Ring of Fire.....mel-c A
—	3	1	Rocket Attack, U.S.A.....war-mel AY
—	3	—	Romanoff and Juliet.....dr-c AY
—	5	3	Rue de Paris (French).....dr A
—	3	1	Rules of the Game (French).....dr A
1	4	9	Sanctuary.....dr-c A
—	3	—	Sand Castle, The.....fan AY
1	9	3	Saturday Night and Sunday Morning (British).....dr A
—	7	3	Savage Innocents, The (British).....doc-dr-c A
—	2	1	Season of Passion (British).....dr A
—	5	2	Secret Partner, The (British).....mys-mel AY
—	5	2	Secret Ways, The.....mys-mel A
—	—	3	See Naples and Die (Italian).....dr A
1	4	—	Serengeti Shall Not Die.....doc-c AY
—	2	1	Shadow of the Cat, The (British).....mys-mel AY
—	3	1	Shadows.....soc-dr A
—	1	2	She Walks by Night (German).....mel A
—	3	—	Silent Call, The.....dr AY
—	—	—	Sins of Rachel Cade (See Rachel Cade)
—	3	—	Sins of Youth (French).....dr A
—	2	6	Sniper's Ridge.....war-dr AY
—	3	—	Snow White and the Three Stooges.....com AY
—	3	1	Spessart Inn, The (German).....adv-c AY
—	3	1	Splendor in the Grass.....dr-c A
—	1	2	Spring Affair.....com A
—	—	3	Stop, Look, and Laugh.....com AY
—	2	1	Stop Me Before I Kill (British).....soc-dr A
—	1	2	Summer and Smoke.....dr-c A
6	10	—	Sundowners, The.....dr-c AY
1	6	3	Sweet Life, The (Italian).....dr A
—	7	3	Sword of Sherwood Forest (British).....adv-c AY
—	3	3	Take a Giant Step.....dr A
—	3	—	Tammy, Tell Me True.....com-c AY
—	4	2	Teacher and the Miracle, The (Italian).....dr AY
—	3	5	Terror of the Tonga, The (British).....mys-mel-c AY
—	8	1	Tess of the Storm Country.....mel-c AY
—	3	2	They Were Ten (Israeli).....dr A
—	—	3	Three Blondes in His Life.....mys-mel A
—	6	—	Tomboy and the Champ, The.....mel-c AY
—	3	1	Tormented, The.....cri-dr AY
—	2	2	Touch of Flesh, The.....soc-dr A
—	6	2	Trapp Family, The (German).....mus-biog-c AY
—	2	1	Truth, The (French).....dr A
3	6	4	Tunes of Glory (British).....war-dr-c A
—	3	—	288 Stournara Street (Greek).....com A
—	2	2	Two Loves (British).....dr-c A
—	7	1	Two Women (Italian).....war-dr A
—	4	6	Underworld, U.S.A.....cri-mel A
—	3	3	Unfaithful, The (Italian).....dr A
—	6	2	Upstairs and Downstairs (British).....com-c A
—	1	2	Violent Summer (Italian).....war-dr A
—	9	5	Wackiest Ship in the Army, The.....war-com AY
—	4	—	Watch Your Stern (British).....war-com AY
—	5	6	White Warrior, The (Italian).....adv-c AY
—	—	3	Wild Love (Italian).....dr A
—	4	1	Wings of Chance (Canadian).....dr-c AY
—	6	6	Young One, The.....soc-dr A
1	3	4	Young Savages, The.....soc-mel AY

The Consumers' Observation Post

(Continued from page 4)

PET PEEVES IN GROCERY SHOPPING were discussed by a panel of eight women at a food distribution conference in Delaware this past spring. Suggestions for improvement included: faster checkout, lower prices instead of trading stamps, fresh produce at the last stop instead of the first, high-quality meat and fresher produce, and trained baggers at the check-out counter to avoid crushing of fragile items. One pertinent comment was that the independent butcher who did his own cutting was in a better position to give the customer just the kind of meat she wanted.

* * *

TO WASH FAMILY GARMENTS PROPERLY THESE DAYS it is necessary to follow the instructions "Hand Washable," "Drip Dry," "Squeeze Gently, Do not rub," "Do not bleach," that appear on labels and hang tags. Every homemaker who has her own system for keeping track of these little nuisances will welcome a suggestion that appeared in the "Letters" column of a well-known fashion magazine. The writer reported that she kept the washing-instruction tag on the hanger with the dress or other garment. It was then readily available for consultation before she washed the garment or sent it to the dry cleaner. She was also able to tell her cleaner about the fiber content, information that he often needs.

* * *

DO NOT LEAVE AN OPEN INVITATION TO BURGLARS to visit your house while the family is away on vacation. The New York Police Department suggests several precautions to take. Many locks can be forced by passing a celluloid strip between the lock and the door; the only type that cannot be opened in this manner is the "dead bolt lock." The installation of two locks on a door is often effective in an apartment house because it takes the burglar longer to get in and increases his risk of being caught in the act. Short chains on doors and windows that open onto fire escapes, with locks that can be secured when the window is either open or shut, are advisable; the dumb-waiter doors that open into apartments should be locked. Never leave a second floor window of a house open for ventilation while on vacation, for it is a gilt-edged invitation to the burglar, according to the police department. Of course, all evidences of absence should be eliminated, including paper and milk deliveries; the post office should be advised to hold the mail; arrange to have the lawn mowed regularly. Window shades should be pulled down half way. An automatic device that turns on lights at a given hour after dark and turns them off before morning is also a useful means for disguising the family's absence. Valuables should be put in a safety deposit box or in a safe that is too heavy to be moved easily.

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THE DISCOUNT HOUSE with its technique of advertising cut-rate prices offers no serious competition to the big mail-order store of Sears, Roebuck & Co. According to Chairman Charles H. Kellstadt, Sears undersells or sells equal to any discounter, marketing goods to the consumer made according to Sears' specifications by the manufacturer. In an interview appearing in Home Furnishings Daily, Mr. Kellstadt pointed out that the discount house in its present state was not efficient in product development or procurement, nor did it have quality control or guaranteed service for the life of a product.

* * *

TEENAGERS ON SNIFFING JAGS pose a new problem to medical men. It seems that some teenagers have been using model airplane glue for "kicks." The glue contains hydrocarbons, such as benzene, that produce exhilaration and even a semblance of alcoholic stimulation when inhaled. The National Safety Council warns that besides the highly toxic benzene, other poisons are present in the glues, such as carbon tetrachloride, chloroform, or ethylene dichloride. These chemicals are known to cause liver damage, and are also dangerous to the central nervous system, heart, gastrointestinal tract, and kidneys.

* * *

PAYING FOR THE HOME TELEVISION SET, AUTOMATIC WASHER AND DRYER, by dropping 25 cents a day in a meter is a new installment technique. According to Home Furnishings Daily, the plan is operating successfully in Saginaw, Michigan, for Godwin's home furnishings store. No money down is needed. How much extra the purchaser pays for the desired product is not stated.

* * *

MOST RUGS AND CARPETS ARE NOT SHRINKPROOF. The National Institute of Rug Cleaning reports that since the majority of manufacturers do not pre-shrink their products, shrinkage is almost inevitable in most modern rugs and carpets. The shrinkage occurs when the backing becomes wet, either in the home-cleaning process or from excessive humidity in a home, unless the carpet is tacked down.

* * *

THE DESIGNATIONS OF U. S. GRADES FOR TURKEYS are A, B, and C, but apparently such simple, straightforward labeling does not appeal to consumers. According to a report in the Farm Journal, Michigan State University researchers discovered that the use of terms such as Prime, Choice, and Good were more effective in selling turkeys. It was found that homemakers would pay 3 cents a pound more for a B Quality turkey that was labeled "Choice" than for an A Quality bird labeled "Grade A." Sometimes it seems as though consumers prefer to be taken.

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Simple inexpensive device for weed killing



Removal of weeds from a lawn by any method that can reduce the amount of stooping and crawling about on hands and knees would be welcomed by thousands of consumers. Dr. A. R. Midgley, chairman of the University of Vermont's agronomy department, has described two interesting devices for the purpose. One of these, shown in the accompanying photograph, is made in the manner explained in this article.

THE weeder described and illustrated in this article has many advantages over a sprayer, for those who do not mind putting together the simple elements described. It actually is more effective for its purpose than a regular sprayer, which is of little value in killing individual weeds or plants, and may often kill plants which one does not intend to harm.

A gallon can is provided with an outlet tube near the bottom, to which a rubber tube is attached. (The outlet tube may be a small piece of $\frac{1}{4}$ -inch copper tubing soldered in place.) At the end of the rubber tube is a piece of $\frac{1}{4}$ -inch copper tubing, long enough to permit the user to stand up holding the upper end, while at the same time he moves the wand so that its tip touches weeds in the turf, one after another. The rubber tube is about 2 feet long; inside the tube, near its lower end is a solid glass bead or steel bearing ball which closes the tube and acts as a shutoff valve. The ball is about the same diameter as the rubber tube; thus slight pressure of the finger flattens the tube and allows a small amount of

liquid to run from the tip of the copper tube or wand. The ball will preferably be of glass, but if a glass ball of the right diameter is not available, a steel bearing ball will do; such balls are inexpensive (available at auto parts stores) and can be replaced when seriously affected by rust. A wooden handle as shown in the picture may be added for convenience of the user.

The lower end of the copper tube is closed by flattening so that only a small passage or opening is left, or if one prefers, a glass eye dropper may be attached at the lower end. (The purpose of the small opening is to prevent dripping, and to prevent bubbles of air from getting into the tube.) According to Dr. Midgley, 2,4-D solution used in the spot weeder will kill most broad-leaf weeds such as dandelions, plantain, chicory, burdock, ragweed, mustard, redroot, pigweed, lamb's-quarters, and yellow rocket.

About $\frac{1}{4}$ cup of concentrated 2,4-D chemical is used in a gallon of water. (One should read and carefully follow the directions for the particular formulation used.) Only $\frac{1}{2}$ teaspoon of the liquid as diluted is needed to kill one weed. This is applied near the center or "heart" of the weed. For spot weed killing on lawns, the "amine" type of 2,4-D preparation is preferred over the "ester" type; the amine preparation is less likely to affect the grass near the weed to which it is applied. Avoid using any weed killer on a new lawn before the grass is established. 2,4-D is a poison, and should be stored and handled as such, and kept where children cannot obtain access to it.

Anyone interested in reading a more detailed report on the devices for spot weeding developed at the University of Vermont may obtain a copy of their Pamphlet No. 29, by addressing a request to the Vermont Agricultural Experiment Station, at Burlington, Vt.

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